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ABSTRACT

Project PATHE (Positive Action Through Holistic Education) was a 3-year delinquency prevention program implemented in seven schools by the Charleston County, Maryland public school system between 1980 and 1983. An evaluation of the PATHE program was conducted which compared PATHE schools to two non-PATHE schools. Year-to-year differences in the PATHE school averages on measures of the project goals were also examined. The results suggest that the direct student services implemented did not reduce delinquent behavior, but did increase commitment to education as indicated by dropout, retention, and graduation rates, and by standardized achievement test scores. The program was found to have been effective in improving school climate. Students in the program schools grew more attached to their schools and perceived an increase in both the fairness of school rules and the extent to which their schools were characterized by planning and action. Students also developed more positive self-concepts, reported more belief in rules, had fewer suspensions, had lower levels of alienation, and reported their schools to be safer. The evidence supports the conclusion that the program represents an effective model for reducing several risk factors for delinquent behavior for the school population as a whole, and for increasing educational outcomes for high-risk individuals. (Five figures and 25 data tables are included.) (Author/NB)

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Center for Social Organization of Schools

Report No. 361
February 1986

AN ASSESSMENT OF A DELINQUENCY PREVENTION DEMONSTRATION WITH BOTH INDIVIDUAL AND ENVIRONMENTAL INTERVENTIONS

Denise C. Gottfredson

The Johns Hopkins University

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The Center

The Center for Social Organization of Schools (CSOS) has two primary objectives: to develop a scientific knowledge of how schools affect their students, and to use this knowledge to develop better school practices and organization.

CSOS works through various research programs to achieve its objectives. A major effort is devoted to the study of elementary and middle schools under the sponsorship of the Office of Educational Research and Improvement, Department of Education. This work is conducted at CSOS by the Center for Research on Elementary and Middle Schools.

This report examines a school-based delinquency prevention program that combined an organizational change approach with direct intervention for high-risk youths to reduce delinquent behavior and improve educational experiences.

Table of Contents

Acknowledgements iv
Abstract 1
History of Program Development 3
Goals and Theoretical Rationale 3
  Program Goals 3
  Theory 3
    Initial theory. 3
    The evolved theory. 4
    Relation to academic theories of delinquency. 5
The PATHE Program Components 6
  Team Structure for Managing School Improvement 6
    Student Concerns Support Team. 6
    Curriculum Support Team. 6
    Student Leadership Team. 6
    Parent Leadership Team. 7
    Business-Education Partnerships. 7
  Policy Review and Revision Structure 7
    Curriculum Review and Revision. 7
    Discipline Review and Revision. 7
  School-Wide Academic Innovations 7
    Study Skills. 7
    Reading Experience Program. 7
    Test-Taking Program. 8
    Field Trip Program. 8
    Student Team Learning. 8
  School-Wide School Climate Innovations 8
    School Pride Campaign. 8
    Expanded Extra-Curricular Activities. 8
    Peer Counseling or Rap Sessions. 8
  Career-Oriented Innovations 8
    Career Exploration Program. 8
    Job-seeking Skills Program. 9
  Services to Target Students 9
Evaluation Methods 9
  Evaluation Design 9
    School-wide interventions. 9
    Services to target students. 10
    Integrity of experimental design. 11
  Measures 12
Project Implementation 12
    Ratings of strength and fidelity. 13
    Teacher ratings of the program. 14
    Student contacts. 14
    Summary of evidence about implementation. 15
Results 15
  Delinquent Behavior 16
    School level. 16
    Individual level. 16
  Attendance 17
    School level. 17
    Individual level. 17

Academic Achievement 18
School level. 18
Individual level. 19
PATHE Objectives 20
Teacher Morale 20
Planning & Action and Smooth Administration 21
Teacher Expectations for Student Achievement 21
Rewards and Punishments 21
School level. 21
Individual level. 21
Fairness and Clarity of Rules 21
Interpersonal Competency 21
School level. 21
Individual level. 21
Self-Concept 21
School level. 21
Individual level. 22
Alienation 22
School level. 22
Individual level. 22
Involvement 22
School level. 22
Individual level. 22
Attachment to School 22
School level. 22
Individual level. 22
Educational Expectations 22
School level. 22
Individual level. 22
Belief in Rules 22
School level. 22
Individual level. 22
A Closer Look at the Stronger Realizations of PATHE 23
Delinquent behavior. 23
Other outcomes. 23
Summary of Outcome Evaluation 24
School Level 24
Individual Level 26
Conclusion and Discussion 28
School-level Program 28
Direct Services 28
Intensity of target student services. 29
Quality of target student services. 29
Recommendations 31
References 33
Figures 37
Figure 1: Project PATHE Action Theory 37
Figure 2: Summary of PATHE Program Components 38
Figure 3: School-Level Disruption Measures 39
Figure 4: School-Level PATHE Objectives 40
Figure 5: Percent Outcomes Favoring Treatment 41
Tables 42

Table 1: Spring 1981 California Test of Basic Skills Standard Scores for Target and Control Groups, by School 42
Table 2: Means and Standard Deviations for Teacher Referrals to PATHE and Number of Suspensions, 1980-81 43
Table 3: Post Randomization Check for Students Added to Experiment in Fall, 1982 44
Table 4: Flow of Students in PATHE Experiment, 1981-1983 45
Table 5: PATHE Specialist Contacts 46
Table 6: Implementation Ratings for Each PATHE Intervention--81-82 . . 47
Table 7: Implementation Ratings for Each PATHE Intervention--82-83 . . 48
Table 8: Teacher Perceptions of PATHE--1981, 1982, and 1983 49
Table 9: Teacher Reports of Involvement in PATHE Activities 51
Table 10: Rates of Suspension, Retention, Attendance and Withdrawal from School, 1979-1983 53
Table 11: California Test of Basic Skills for Grades 7, 8, and 10--PATHE and Comparison Schools, 1981 through 1983 54
Table 12: 1981 to 1983 Difference Scores for School Averages on Survey Measures of PATHE Goals and Objectives--Laing M.S. 56
Table 13: 1981 to 1983 Difference Scores for School Averages on Survey Measures of PATHE Goals and Objectives--Courtenay M.S. 57
Table 14: 1981 to 1983 Difference Scores for School Averages on Survey Measures of PATHE Goals and Objectives--Rhett M.S. 58
Table 15: 1981 to 1983 Difference Scores for School Averages on Survey Measures of PATHE Goals and Objectives--Rivers M.S. 59
Table 16: 1981 to 1983 Difference Scores for School Averages on Survey Measures of PATHE Goals and Objectives--Haut Gap M.S. 60
Table 17: 1981 to 1983 Difference Scores for School Averages on Survey Measures of PATHE Goals and Objectives--St. John's H.S. 61
Table 18: Means and Standard Deviations for PATHE Target and Control Groups on Self-Reported Measures of Delinquency, Nonattendance, and Grades 62
Table 19: Means and Standard Deviations for PATHE Target and Control Groups on All Other Self-Report Measures 63
Table 20a: Means and Standard Deviations for PATHE Target and Control Groups on Spring '83 California Test of Basic Skills 66
Table 20b: Means and Standard Deviations for PATHE Target and Control Groups on Measures of Academic Achievement from School Records 67
Table 21: Means and Standard Deviations for PATHE Target and Control Groups on Measures of School Attendance from School Records 68
Table 22: Means and Standard Deviations for PATHE Target and Control Groups on Measures of Disruption from School and Court Records 69
Table 23: Comparison of Means and Standard Deviations on Selected Outcomes for Treatment and Control Students Who Remained in School with All Treatment and Control Students 70
Table 24: t-statistics for Year-to-Year Differences on School Averages for Individual-Level Outcomes 71
Table 25: t-statistics for Year-to-Year Differences on School Averages for School-Level Outcomes 72

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Abstract

This report examines a school-based delinquency prevention program that combined an organizational change approach with direct intervention for high-risk youths to reduce delinquent behavior and improve educational experiences. Evaluation results imply that the direct student services, as implemented, did not reduce delinquent behavior, but did increase commitment to education as indicated by rates of dropout, retention, graduation, and standardized achievement test scores. Some evidence suggests that these services might have been effective for reducing delinquency if strengthened.

The program was effective in improving school climate. Students in the program schools grew more attached to school, perceived an increase in the fairness of school rules and in the extent to which their schools were characterized by planning and action. Students also developed more positive self-concepts, reported more belief in rules. fewer suspensions, and lower levels of alienation. They also reported their schools to be safer.

The evidence supports the conclusion that the program is an effective model for reducing several risk factors for delinquent behavior for the school population as a whole, and for increasing educational outcomes for high-risk individuals. The program, if further developed, should have promise for reducing delinquent behavior and drug use for the school population as a whole.

The vast majority of interventions intended to reduce the risk of delinquent behavior have been what might be called individual-ameliorative interventions. Typically such interventions are aimed at a specified group of individuals identified in some way as at elevated risk of displaying delinquent behavior, and they typically involve the administration of treatments intended to ameliorate personal deficits of some kind and hence to reduce the risk that the individual will subsequently display behavior defined as delinquent. Examples of such interventions include the Cambridge-Sommerville Youth Study (Powers & Witmer, 1951; McCord, 1978) which adopted a comprehensive case work approach to delinquency prevention, family interventions involving applied behavior analysis (Alexander & Parsons, 1973; Patterson, McNeal, Hawkins, & Phelps, 1967) which involve attempts to enable the individual to gain rewards through desired behavior and to learn to abstain from undesired behavior, and social skills interventions (Arkin et al., 1981; Evans, Rozelle, Mittelmark, Hanser, Barre, & Havis, 1978; Telch, Killen, McAlister, Perry, & Maccoby, 1982) which are intended to increase individuals' skills in avoiding social influences to engage in undesired behavior. Usually, these individual-ameliorative interventions are directed at persons who are somehow identified as at high risk of displaying delinquent behavior, and they therefore can usually be

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This report summarizes results printed in earlier technical reports (D. Gottfredson, 1982; 1983a; 1983b; 1984) and presents new evaluation results based on data from school and police records.

classified as secondary prevention or tertiary prevention (treatment) interventions.

In contrast to individual-ameliorative interventions is a class of interventions that might be called environmental-structural interventions. These interventions seek to reduce the risk that inhabitants of an environment will display delinquent behavior by altering environmental cues, rewards and punishments, and structural arrangements in ways that make undesired behavior less likely to occur. Environmental-structural interventions include attempts to clarify and consistently enforce rules for conduct (Canter & Canter, 1976; Gottfredson & Gottfredson, 1985; Howard, 1978; Woodall, 1979) so that desired behavior becomes more likely and undesired behavior less likely, interventions that reorganize classroom reward structures (Slavin, 1983) so that all students have a stake in conformity, and interventions that make delinquent behavior more difficult to engage in by limiting access to substances or materials that would otherwise be tempting targets. Usually, these environmental-structural interventions are directed at all persons in an environment, and they therefore can usually be classified as primary prevention interventions.

Apart from a few examples of behavioral interventions conducted for research purposes by skilled behavioral scientists, there are few examples of demonstrably effective delinquency prevention interventions of any kind (Dixon & Wright, 1974; Gottfredson, 1981). The dearth of programs known to be effective is not due to a lack of delinquency prevention programs. Schools nationwide commonly provide programs ranging from peer counseling and social work interventions through recreation with the apparent intent of preventing delinquency. Nor is the dearth of programs known to be effective due to a lack of ideas that seem worth a try. A number of theoretical perspectives--each with some empirical support--could be used to design interventions to reduce the risk of delinquent behavior in intervention trials (Gottfredson, 1981; Martin, Sechrest, & Redner, 1981), but few prevention programs are implemented in ways that allow a careful assessment of the manner in which they are carried out or make possible strong inferences about their effects. Accordingly, thorough evaluations of prevention programs--not only of the individual-ameliorative kind but also of the environmental-structural kind--are needed to describe interventions as realized in typical school settings and to assess their effects.

The present report summarizes the evaluation of a three-year delinquency prevention program implemented by the Charleston County public schools between 1980 and 1983. The project, known as Project PATHE (for "Positive Action Through Holistic Education") involved interventions of both the individual-ameliorative and environmental structural kinds.

PATHE was implemented in seven schools for three years as part of the U. S. Office of Juvenile Justice and Delinquency Prevention's (OJJDP's, 1980) Alternative Education Initiative. It was a comprehensive school improvement program the operations and development of which were guided by unusually sound program management and evaluation activities. The program simultaneously altered school organization and provided treatment to high-risk individuals. The program cost

approximately $440,000 per year when it operated in full form and cost about $268,000 in its final year.

History of Program Development

PATHE had its origins in other federally-funded projects which operated in the Charleston County School District in the 1970's. These projects set the stage for PATHE--they shared PATHE's underlying philosophy and approach to school improvement and were staffed by many of the same personnel. The OJJDP grant allowed Charleston County to further develop a program that had been popular in earlier projects. Although PATHE's forerunners had not been labeled as delinquency prevention projects, the comprehensive nature of PATHE and its focus on the educational and attitudinal risk factors for delinquency made it easy to conceive of PATHE as a delinquency prevention program.

The PATHE design was strengthened considerably over the three-year period between 1980 and 1983 by applying the Program Development Evaluation method (Gottfredson, 1984; Gottfredson, Rickert, Gottfredson, & Advani, 1984). Program managers elaborated the program philosophy, clarified the intermediate objectives of the program, organized the interventions into categories to facilitate management, established implementation standards for each intervention, strengthened program management, and dropped or modified program components on the basis of interim evaluation results and practical experience with the program.

Goals and Theoretical Rationale

Clear program goals and clear ideas about the nature and causes of the problems a program is addressing are essential guides to program development. A report by the Panel on Research on Rehabilitative Techniques (Martin, Sechrest, & Redner, 1981) points out that, in the absence of an adequate conceptual framework, interventions often are unrelated to the causes of the problem, ignore suitable target populations, and fail to consider questions of optimal timing and strength of interventions. Theory is also essential for the organization and communication of ideas. A clear statement of the theoretical rationale behind a program increases the probability that something useful will be learned from the trial, and that this useful knowledge will be communicated to others.

Program Goals

The PATHE program sought to bring about reductions in delinquent behavior in and around the participating schools, tardiness and unexcused absences from school, academic failure, and to increase successful transitions to employment or postsecondary education.

Theory

The rationale for the program evolved and was clarified over time. Accordingly, the following paragraphs first describe the initial rationale for the project and then describe the theory guiding the project as it evolved.

Initial theory. Only a little in the way of a theoretical rationale for the PATHE program can be gleaned from the proposal for the project (Charleston County School District, 1980). The main theme of the proposal was that school disorder stems from the school system's failure to take a proactive approach to discipline and to tailor curriculum materials and instructional tech-

niques to the needs of students. The project proposed to revise disciplinary procedures and policies using a preventive approach, to clarify the curriculum objectives and to focus educational services on students' diagnosed needs; and to provide opportunities for students, teachers, administrators, parents and other community members to participate in school improvement. In addition, the project proposed to provide intensive tutoring and counseling to 100 "target students" in each school--students who were identified as being most in need of project services. Although the proposal was clear about the goals of the project and about the general approach that would guide program activities, it was--by Program Development Evaluation standards (Gottfredson, Rickert, Gottfredson, & Advani, 1984)--lacking in a clear statement of the intermediate structural, behavioral, and attitudinal changes the project intended to bring about.

Initial meetings with the project managers revealed an eclectic, loosely connected theory and a planned set of some thirty-two discrete program activities. The theory resembled a list that might be generated if one were to pull key variables from every major theory of delinquency and to add to it variables relating to local sources of schools' problems. In all, 37 hypothetical causes of delinquency were named (D. C. Gottfredson, 1982). The planned activities appeared congruent with the theory, suggesting that intermediate causes of the problems the program was addressing had been seriously considered in the design of the program. Only 5 of the 37 causal variables mentioned during the theory-generation stage were not addressed directly by the initially-proposed program.

The evolved theory. Activities aimed at removing redundancies and clarifying causal links in the program's action theory resulted in the theory shown in Figure 1. The theory is broad: It encompasses the major domains of the students' lives. It implies that conforming behavior (i.e., restraint from delinquent activities) and socioeconomic attainment result from three interrelated student outcomes: positive self-concepts, rewarding conventional experiences, and social bonding. The PATHE theory emphasizes five school factors that must be altered to bring about desired changes in student behavior and attitudes: Teachers must believe that their students have the potential to succeed; teachers must plan to improve their schools, must make use of available technologies to improve instruction and behavior management, and must model appropriate behaviors; the student culture must reflect an academic and prosocial focus; the school must be managed in a clear and consistent fashion, and teachers and administrators must cooperate in efforts to improve the school; and the school climate must promote attachment to others and a sense of belonging and personal security. In addition, program managers elaborated key student "input characteristics" that the program sought to change: Families must support students' academic endeavors, students must acquire adequate decision-making and communication skills, and students must feel that they have some control over their futures. The theory assumes that socioeconomic factors affect the family, school and student characteristics, but it makes clear that the locus of intervention of the program is the school and that the program's effect on the community will result only from long-term changes in the character-

istics of the individuals inhabiting the community rather than through direct intervention.

Relation to academic theories of delinquency. The educators who designed and implemented Project PATHE were not criminologists and had little if any prior exposure to academic theories of delinquency or social control. Nevertheless the correspondence of several elements of the rationale for the project with these theoretical perspectives on delinquency is striking.

The concern for increasing the sense of belonging in the school parallels Hirschi's (1969) notions of bonding to the social order. PATHE sought to increase attachments to prosocial others, belief in morality, commitment to socially appropriate goals and involvement in conventional activities. These ideas are central to Hirschi's social control theory.

The concern for student self-esteem has parallels in Kaplan's (1980) perspective on deviant behavior in defense of self and in a closely related perspective on schooling and delinquency discussed by Gold (1978). Kaplan assumes that everyone has a "need" for self-esteem and that a failure to meet these esteem needs in a membership group leads to "self-derogation" and the subsequent experimentation with various forms of delinquent ("deviant") behavior that may be perceived as sources of esteem. Both Kaplan and Gold see ravaged self-esteem as an impetus to delinquency, and presumably interventions that built self-esteem would reduce the likelihood of delinquent behavior.

The concern for rewarding school experiences resembles concerns expressed by McPartland and McDill (1977) about the restricted range of responses to student conduct available in many schools and Howard's (1978) concern that many schools are "rigged" for failure for many students.

The project's concern about teacher expectations for students is related to a labelling perspective (Lemert, 1972) whereby the responses others make to a person's conduct result in the incorporation of self-attributions by the person which then lead to "secondary deviance." The concern that teachers model appropriate behaviors may be related to elements of social learning theory (Bandura, 1971; Akers, Krohn, Lanza-Kaduce, & Radosevich, 1979) which implies that people learn behavior through observation.

The project's concern that teachers plan for school improvement and make use of available technologies for instruction and behavior management are related to suggestions by Berman and McLaughlin (1976) and Grant, Grant, Daniels, Neto, & Yamasaki (1979) that planning by intact teams may promote the adoption of innovations in schools and a perspective on the design of programs that calls for the incorporation of previously tested technologies in developing programs whenever possible and appropriate (Gottfredson, Rickert, Gottfredson, & Advani, 1984).

The concern that student culture have a prosocial focus and that the school must be managed in a clear and consistent way conforms with Gottfredson and Cook's (1984) perspective on the behavior of persons in environments that implies that the rules for and consequences applied to behavior in proximate environments are powerful regulators

of behavior and that people are restrained from inappropriate behavior by environmental signals that regulate their behavior.

Despite its resemblance to a variety of perspectives on delinquent behavior, the PATHE theory was an eclectic rather than an integrated theory. Rather than focusing on a small number of clearly defined variables that either cause or restrain against misconduct, it provides a diffuse guide that suggests a wide variety of potential interventions. Such a complex rationale is difficult to grasp at once, seems to accept many explanations of delinquency rather than favoring any single explanation that is regarded as most plausible, and may provide only limited focus for the development of interventions.

The PATHE Program Components

By the midpoint of the project period, program managers had reorganized the original thirty-two project activities into five major areas of intervention. This grouping of activities with similar objectives helped to focus the program's activities and to better organize the management and evaluation functions.

The PATHE Implementation Manual (Gottfredson, Coaxum, Dilligard, & Stewart, 1985) contains implementation standards, descriptions of common obstacles to implementation, recommendations about acceptable program modifications, and a detailed account of how each component is implemented. An account of PATHE's major interventions and their primary objectives follows, and a summary of the program components appears in Figure 2.

Team Structure for Managing School Improvement

The project's primary intervention was to establish and maintain an organizational structure to facilitate shared decision making among community agencies, students, teachers, school administrators, and parents in planning for school improvement. The project provided training in assessing needs, researching problems, defining objectives, developing and implementing plans, assessing progress, and redesigning strategies. It established a team structure to implement school change, and a structure to review and revise school policies.

Most school-wide innovations were accomplished through five teams. Two full-time workers in each school--the Curriculum and Student Concerns Specialists--shared responsibility for organizing the teams and monitoring their activities. Although specific activities carried out by the teams often had other objectives, the primary objective of organizing school and community persons into teams was to improve school management.

A description of the composition and purpose of the five teams follows:

Student Concerns Support Team. Five faculty members at each school worked with the Student Concerns Specialist to plan activities to improve school climate and student behavior.

Curriculum Support Team. Five faculty members representing the major academic areas worked with the Curriculum Specialist to plan and implement activities to improve academic performance.

Student Leadership Team. At least ten students planned and implemented activities to improve each school. The development of leadership skills in the team members was an objective of this intervention.

Parent Leadership Team. At least ten parents in each school were organized and trained to plan and implement activities to improve the school environment.

Business-Education Partnerships. Community businesses and educational institutions provided management resources, and public relations expertise to each of the schools.

Policy Review and Revision Structure

This structure had two components--one addressing curriculum and a second addressing discipline.

Curriculum Review and Revision. This intervention was directed at increasing teacher competencies and at improving school administration in curriculum development and delivery. Achievement test results were used to diagnose school-wide academic weaknesses. The Curriculum Specialist, in cooperation with the Curriculum Support Team, used the resulting information to plan and carry out remedial programs. These included ongoing faculty development through inservice training in innovative teaching techniques. In addition, a curriculum resource room was established and its use monitored by the curriculum specialist. Resources included self-instructional activities, books and magazines, and other supplementary instructional materials. Both teachers and students were encouraged to use these resources.

Discipline Review and Revision. This intervention was aimed at improving teacher competencies in classroom management and at improving school-wide discipline management. The Student Concerns Specialist, with the Student Concerns Support Team, reviewed information about discipline problems in the school and planned and carried out activities designed to address those problems. Emphasis was placed on student involvement in the development of school and classroom rules, the establishment of a discipline referral procedure and the use of a standardized discipline referral form. The Discipline Review and Revision component included ongoing faculty development through inservice training.

School-Wide Academic Innovations

The interventions which grew from the Curriculum Review and Revision component and the Curriculum Support Team activities were aimed ultimately at improving academic performance, but staff training in planning and implementing school change was the short-term focus of these activities. PATHE also put in place five specific interventions aimed directly at school-wide improvements in academic performance.

Study Skills. The Curriculum Specialists provided training for students in the form of mini-courses on study skills (e.g., note-taking, listening skills, good study habits). They also served as resources for teachers in developing and implementing study skills units for their classes.

Reading Experience Program. A period of time was set aside in the school schedule for free reading for everyone in the building. Teachers, staff, administrators, and students were encouraged to participate--and

students were recognized for active participation.

Test-Taking Program. The Curriculum Specialist distributed and monitored the use of Math and English practice tests for CTBS and state-wide tests. Teachers were encouraged to use the practice tests throughout the year on at least ten separate occasions. The Specialists also organized and implemented activities to provide test-taking tips to parents, teachers and students and to promote positive student attitudes toward test taking.

Field Trip Program. PATHE provided additional resources to the schools to assist with cultural, academic, and career-related field trips. Staff members conducted field trips themselves or sought the assistance of teachers in conducting them.

Student Team Learning. Student Team Learning (STL) is a set of classroom instructional techniques using teams of students differing in ability levels (Slavin, 1983). Team members in STL classrooms study and drill together and prepare for quizzes or cross-team competitions. Teams earn rewards for improvement rather than for the absolute learning of their members. The techniques have received positive evaluations for enhancing learning, self-concept, liking of school, and increasing cross-race and cross-sex friendships (Slavin, 1983). Teachers in the project schools were offered training in STL techniques and were encouraged to implement the techniques in their classrooms.

School-Wide School Climate Innovations

This set of interventions, like the foregoing academic interventions, involved specific programs to enhance school climate. The interventions were as follows:

School Pride Campaign. This involved students and teachers in activities aimed at improving the overall image of the school.

Expanded Extra-Curricular Activities. The Student Concerns Specialist encouraged the growth of extra-curricular activities on campus by assessing student needs, establishing needed activities, recruiting sponsors, and monitoring the progress of new activities.

Peer Counseling or Rap Sessions. Students were selected and trained to participate in either peer counseling or in adult-directed "rap sessions." The purpose was to establish a forum in which students could constructively discuss topics of concern and to generate peer pressure to resolve problems in a socially acceptable way.

These activities were expected to alter the school climate by (a) changing the normative belief structure in the school to a more prosocial one, (b) increasing cohesiveness among students and teachers, and (c) improving student morale. The project sought to increase bonding to the social order through this set of activities.

Career-Oriented Innovations

This set of innovations was aimed at increasing successful transitions to careers and postsecondary education.

Career Exploration Programs. The project, in cooperation with a local technical college, offered high-school students opportunities to participate in two programs designed to introduce them to technical careers such as engineering, computer science, and industrial technology.

Job-seeking Skills Program. This intervention provided training in specific skills for finding and keeping a job (e.g. interview etiquette) and offered opportunities for broadened career awareness. This intervention was aimed at increasing the educational and occupational attainment of youths by increasing their job readiness, and at increasing students' commitment to conventional goals.

Services to Target Students

A major set of activities was intended to provide affective and academic services to students in need of intensive services. This program component made a special effort to increase the involvement and success experiences of students who may have already given up on their education. Students eligible for the direct services (about 10% of the students in each school) were identified and diagnosed. The identification process (described later under the experimental design section) selected students with records indicating academic or behavioral problems.

The diagnostic phase was guided by detailed reports of students' performance on standardized achievement tests, grades from the previous year, and disciplinary information from school records. Behavioral treatment objectives were defined, academic and counseling services aimed at these objectives were prescribed, and progress toward objectives was monitored and frequently reassessed.

Standards for the quality and frequency of specialist contacts with target students were established and communicated to the specialists. The project manager conducted biweekly quality control checks of target student's folders and provided on-the-spot technical assistance to specialists who were not meeting the implementation standards. Approximately half of the specialists' time was devoted to providing these direct services to target students.

These direct services were intended to increase experiences of academic success, increase self-concept, and strengthen students' bonds to the social order.

Evaluation Methods

Evaluation Design

School-wide interventions. The effects of school-level interventions are assessed by examining year-to-year differences in the seven PATHE school averages on measures of the project's goals and objectives. Two non-PATHE schools--one high and one middle--were selected for comparison with the PATHE schools. All nine schools were surveyed in Spring, 1981, and again in Spring, 1982.

In Fall, 1982, the high school comparison school was unexpectedly closed and students from the comparison school and two of the PATHE high schools were reassigned to one of the remaining two high schools on the basis of their grade level. The reorganization changed the school climates drastically. The senior campus of the high school received

the cities' eleventh and twelfth graders--the more orderly students--and was housed in a building that had been renovated. The junior campus received the cities' ninth and tenth graders--the more disorderly students--and remained in its old building. An examination of the school climate profiles for the two campuses showed that the senior campus improved greatly and the junior campus deteriorated on almost every measure. These changes in teacher and student behaviors, attitudes, and perceptions of the environments can not be attributed to the PATHE program. Because any differences in school means for the schools affected by the reorganization would be ambiguous, this report examines school level change only for the middle schools and the one high school that was unaffected by the reorganization.

Unanticipated budget cutbacks in the third year required that the program be discontinued in Rhett Middle School. We kept this school in the survey sample to enable an assessment of the effects of pulling the program out of the school. Showing that removing the program resulted in the return of the school to its pre-PATHE state would strengthen the argument in favor of program effectiveness.

Services to target students. The program managers implemented a true experiment to evaluate the effectiveness of the target student component. Students eligible for direct services were randomly assigned by researchers at Johns Hopkins University in September, 1981, from a pool of eligibles. The pool consisted of students from the PATHE schools and the sixth grades of the feeder elementary schools who met any of the following criteria: (a) Had been suspended during the 1980-81 school year; (b) Were referred to the PATHE program by a teacher;[1] or (c) Had total California Test of Basic Skills (CTBS) achievement scores in Spring, 1981, that fell in the bottom twenty-five percent of the scores for all students in the school.

The procedure resulted in pools of different sizes for the seven PATHE schools. The pools for the high schools, but not the middle schools, were of sufficient size to constitute target and control groups of equal size. In the middle schools as many as 71% of the pool had to be assigned to the treatment group in order to meet the 100 treatment students per school expectation of OJJDP project officers.

Tables 1 and 2 show the results of a post-randomization check for the students initially assigned to the experiment. Only one of the comparisons shows a significant pre-treatment difference between target and control groups. At least one significant difference at the $p < .05$ level would be expected to occur by chance if the groups were

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[1]Teacher referrals were guided by seven criteria provided by the program staff:

1. Previous expulsion, suspension, or involvement in a number of disciplinary actions
2. Social promotion or previous retention
3. Decline in performance level over past three years
4. Previous request for guidance or counseling due to a special need or problem
5. Tendency to cut class (truant)
6. Difficulty with the law (delinquent)
7. Referral by a school/community agency

in fact equivalent. Therefore, post randomization checks imply that randomization was successfully implemented.

All treatment and control students remaining in the PATHE schools for the 1982-83 year remained in the experiment, except for those at Rhett Middle (which was dropped from the program due to budget cuts) and a few students who were temporarily lost from school enrollment records. Treatment and control slots left vacant by attrition from the PATHE schools were filled as follows:

A random sample of approximately 200 students from each PATHE and control school were scored on the following criteria:

1. Student was suspended more than three times during 1981-82.

2. Student had more than the ten days of unexcused absence during 1981-82.

3. Student was referred to the office for disciplinary problems at least once during 1981-82.

4. Student scored in the bottom national quartile on the total battery of the Spring, 1982, CTBS achievement test.

5. Student received at least one failing grade in Math, English, Science, or Social Studies during 1981-82.

It was not necessary to replace experimental students at two of the middle schools because of the reduction in the number of target students from 100 to 50 in the middle schools. All students in the other schools who met at least two of the above criteria for Haut Gap and St. John's, and three of these criteria for Burke Jr. and Burke Sr. were included in a pool of eligible target and control students. Any student who had been expelled during 1981-82 was added to the pool. The pool was put in random order, and starting from the top of the list, each student's enrollment status was checked. This process ended when two times the number of students needed to fill the treatment vacancies in each school were found to be enrolled. Then treatment and control students were selected randomly from these short lists using a random numbers table.

In all, eighty-one treatment and seventy-six control students[2] were added in the Fall of 1983. Table 3 provides information about the equivalence of the new target and control students. It shows that the groups had equivalent achievement test scores prior to treatment and that they were roughly equal in terms of age, gender and parental education. A post randomization check for all treatment and control students (old plus new) indicated that the groups were equivalent on 1981 standardized test scores. Table 4 shows the flow of treatment and control students from 1981 to 1983.

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[2]The numbers are unequal because in one middle school the ratio of treatment to control students was three to one. This ratio was necessary because not enough students were initially identified as appropriate for target services. In order to fill the vacant treatment slots, it was necessary to assign a larger number of students to the treatment than the control group. The initial ratio was maintained for the second random selection.

Integrity of experimental design. Because all students in the PATHE schools were encouraged to participate in PATHE-sponsored activities such as "rap sessions" and extracurricular activities, we expected that control students would receive some program services--about as much as other non-treatment students in the school. Table 5 indicates that during 1981-82 at Courtenay and Rivers middle schools, control students received close to one half as much treatment as the treatment students. The specialists in these schools apparently had special difficulties withholding treatment from control students referred for service. All other schools treated control students as much as one-third as much as treatment students, but in most cases this level of services to control students would be expected if control students received the same amount of service as the general school population.

The experimental design was implemented with more integrity throughout the 1982-83 school year. Table 5 shows that services to target students exceeded those to controls in every school. The ratio of total contacts with target students to those with controls ranged from 4:1 to 61:1.

Measures

Surveys of students and teachers in all PATHE schools and in two comparison schools were conducted. These surveys are called the School Action Effectiveness Study (SAES) surveys. All full-time teachers in the schools were surveyed. A random sample of approximately 200 students was selected each year from each school. All target and control students were sampled with a probability of 1.0 each year, as were students who were part of a prior year's random sample. Students identifiable in advance as educable mentally retarded youths were excluded from the sample. School averages based on survey responses are obtained by weighting each student's response by the inverse of the probability that the student was included in the survey sample.

The SAES measures have been described elsewhere (Gottfredson, Ogawa, Rickert, & Gottfredson, 1982; Gottfredson, Gottfredson, & Cook, 1983). Measures from Charleston County School District records of grades, attendance, achievement, retention, graduation, suspension, expulsion and disciplinary referrals are also examined, as are court contact records.

Project Implementation

"Was the program strong enough to be expected to have made a difference?" and "Was the program implemented as intended?" are two questions that should increasingly be asked by evaluators (Quay, 1977). One approach to assessing the strength of a program is to compare the quantity and quality of the services provided with the quantity and quality of services that prior research, practice or theory imply would be necessary to reach the program goal; and an approach to assessing the fidelity of a program is to compare what was implemented to what the project set out to implement (Gottfredson, 1984).

The PATHE managers made possible an assessment of fidelity by specifying in advance their standards for quality and quantity of services and by monitoring on a continual basis the extent to which they met, exceeded or fell short of their standards. We can also assess strength in an absolute sense, but we do not have good yardsticks

against which to gauge the strength of the PATHE interventions. Educational innovations are seldom well-evaluated: Information about the quality and quantity of services provided is seldom collected. For most PATHE interventions the project managers set standards that accorded with their common sense about how strong the intervention had to be to make a difference. Future quasi-replications of the PATHE program should vary the strength of components to learn more about dosage effects.

Ratings of strength and fidelity. In the Spring of 1982, project personnel developed standards for the quantity and quality of services provided (Gottfredson, 1983a). Project personnel also kept a detailed management plan, the Program Development Worksheet (PDW), and updated it monthly throughout the school year. At the end of the 1981-82 school year the PATHE on-site evaluator compared actual implementation as documented in the PDW's and in interviews with project personnel to ideal implementation as implied in the standards described above to rate the quality and quantity of implementation for each program component (Birdseye, 1982). Table 6 shows the average of the resulting ratings.

By the beginning of the next year the standards were revised and incorporated into the PDW. The project manager monitored the schools throughout the year by checking to see if the school had met each of the standards specified in the worksheet. The final worksheet for the year, which contained information about which standards had been met and were left unmet for the year, became the basis for our ratings of the fidelity of each program component for each school. Two raters reviewed the completed PDW's, rated each school on each standard, and averaged the ratings across standards for the component categories shown in Table 7. The raters compared notes and resolved all discrepancies between their ratings.

The ratings for the two years presented in Tables 6 and 7 are not comparable because the raters and the rating schemes differed. However, the tables suggest the following: In general, the program was implemented in stronger form (i.e., a greater percentage of the standards were met) in 1981-82 than in 1982-83, but appears to have been implemented more consistently across schools in 1982-83. In the earlier year high schools implemented the program with greater fidelity than did the middle schools and the range between the weakest and strongest school was considerable: Rivers Middle implemented fewer than 50% of the standards, while Burke Sr. met about 100% of the standards. In 1982-83, the high schools did somewhat better than the middle schools on the organizational components of the program, but the middle schools did better in the affective area and in services to target students. The difference between the weakest and the strongest school was also small in 1982-83.

In both years, the organizational components of the program (the team and the review and revision structures) were well-implemented and the career component was weak. The target student component was the weakest component during 1981-82 and the strongest in 1982-83. This reflects an intentional shift in the focus of the program.

During 1981-82, the most vigorously implemented components were the Student Leadership Teams and the

Curriculum Review and Revision components (for all schools), and the Parent Leadership Teams, School Pride Campaign, Field Trips, Reading Experience Program, Job-Seeking Skills, and Faculty Inservice training (for the high schools only). No school implemented the target student services or the extracurricular activities program well, and the middle schools did not do well with the Business-Education Partnerships, Peer Counseling, Tutoring, Job-Seeking Skills and Faculty Inservices.

In 1982-83 the emphasis changed. The Curriculum Review and Revision, Study Skills, Reading Experience, and Business-Education Partnerships remained strong, and the target student services were strengthened. Test-taking skills, Student Team Learning, and the career components were least well-implemented in 1982-83.

Teacher ratings of the program. The PATHE managers appended project-specific questions onto the SAES teacher survey. Results for selected questions from this addendum to the teacher survey are shown in Tables 8 and 9. These results imply high teacher support for the program, and they imply that the teachers thought the principals were supportive of the program. The percentage of teachers reporting support for PATHE increased over time. Most of the teachers in PATHE schools said PATHE had a positive effect on discipline problems, parental involvement, teamwork among staff, student participation in school activities, and academic achievement. Teachers also reported high levels of involvement in PATHE activities. Results suggest that the program had most teacher support in Courtenay and Burke Sr., and least in Rhett and St. John's. These rankings do not accord with ratings of program strength and fidelity by evaluation staff, suggesting either that teacher support is not a function of the quality of the implementation or that one or the other assessment is not valid.

Student contacts. Summaries of specialist contacts with students appear in Table 5, and the information in these tables mirrors results from the ratings discussed earlier. The table shows a dramatic increase in services to target students during the final program year. Implementation standards called for an average of three contacts per month with each target student, or about twenty-seven per year. The table shows that only one school met the standard in 1982-83, but that the intensity of the direct service component nearly tripled over 1981-82 levels. During the 1981-82 year the average number of contacts per target student ranged from only 3.81 to 13.67, with an average of 6.86--less than one contact per month for the average target student. For the 1982-83 year, the averages ranged from 7.56 to 32.86, with an average of 17.89--about two contacts per month per target student.

OJJDP reduced PATHE's budget for 1982-83 from $440,000 to $268,000. This cut was not anticipated by the project managers, who had already planned, on the basis of early evaluation feedback, to strengthen the direct services provided by the program for the following year. The program managers responded to the cutback by eliminating the Student Concerns Specialist position in the middle school, and redesigning the Curriculum Specialist's job to include some counseling of target students. Other school-wide services previously provided by the Student Concerns Specialist were curtailed. This reduction is evident in the Table 5 figures on per-

cent of students in the school contacted. During the 1981-82 school year, between 38 and 77 percent of the students in the project schools were involved in some documented project activity. The average percent contacted was 60 percent. Table 5 shows the range for the 1982-83 school year to be 20 to 62 percent, with an average of 34 percent. This reduction in school-wide contacts primarily affected counseling services to students referred by teachers for disciplinary reasons. Most other school-wide services remained fairly stable.

Summary of evidence about implementation. PATHE was a popular program among teachers and administrators in the schools. With the exception of the Career component, the program was reasonably well-implemented by the 82-83 school year. The school-wide innovations were well-established in each school before the program shifted considerable resources to strengthening the individual treatment component. Variation in fidelity to the program design was initially evident across schools, but by the end of the project these differences were minimal, except in the school-wide affective area.

Results

Project PATHE had goals and objectives both for its school-level interventions and for its interventions aimed at high-risk students. Accordingly, for each type of outcome, results are presented first for school-level outcomes and then for treatment-control group comparisons.

Table 10 shows school-level statistics for attendance, retention, suspension, and withdrawal from school. Table 11 shows the average scale scores for the 1981, 1982, and 1983 California Test of Basic Skills Reading and Math Subtests for Grades 7, 8, and 10 (The school district changed its testing policy in Fall, 1983 and tested only selected grades). School-level statistics for 82-83 for the consolidated high school are included in the tables but will not be discussed because of ambiguities in their meaning resulting from the consolidation described earlier.

Tables 12 through 17 show the differences in school means on survey measures for the 1982 to 1983 period, and the 1981 to 1983 period. Only those outcomes directly relevant to the PATHE program are reported, and 1982-83 results for the consolidated high schools are not presented. School means for each year for all outcomes are available elsewhere (Delinquency Program, 1984).

On Tables 12 through 17, t-statistics for compositional measures (i.e., school averages for scales that were constructed at the individual level by first averaging individuals' responses to the items in the scale and then averaging the scale scores for all individuals in the school) are based on the means and standard deviations for each scale for each school. The means are computed by weighting each individual's response by the inverse of the probability of sample selection, but the t-statistics are based on the unweighted number of cases. For psychosocial climate measures (i.e., school averages for scales that were constructed at the school level by averaging the school average for each item in the scale), the t-statistic is the ratio of the difference between the 1983 and the baseline (1981 or 1982) score to the standard error of measurement of the 1982 score.

Tables 18 through 23 show means and standard deviations for treatment and control groups for 1982-83 outcome measures. Tables 18 and 19 show results for outcomes measured by SAES surveys, and Tables 20 through 23 show results from school and court records. On these tables, statistical significance was determined by F-tests. Analysis of Variance tests were performed for each outcome using school and treatment as factors. If a significant main effect for the treatment was detected when data for all schools were pooled, significance is indicated in the "All schools" row of the table. When a statistical interaction between treatment and school was significant, the F-test was repeated separately by school and only those schools whose F-statistics were significant received stars on the tables. The following paragraphs summarize information from Tables 10 through 23 for each PATHE goal and objective.

Delinquent Behavior

School level. The program managers did not consent to our asking middle school students about their delinquent behavior during the first survey administration, so only a comparison of 1982 to 1983 scores is possible for these schools. Tables 12 through 17 show that the mean scores on the self-reported delinquent behavior scale declined in all PATHE schools from 1982 to 1983. The comparison school experienced an increase. The differences reached statistical significance for one of the PATHE middle schools and for the comparison middle school. For the high school, the decline from 1981 to 1983 was also significant.

Other measures of school disruption also generally declined in the PATHE schools: Teacher reports of victimization were down in all three PATHE middle schools and up in the comparison middle school. Student reports of victimization were down in two of the three PATHE middle schools and up in the comparison middle school. As an exception, however, teacher and student victimization both rose in the PATHE high school. Students and teachers reported increased Safety in all schools except one PATHE middle school, and the increase was significant for student reports in one PATHE middle school. Self-reported suspensions also decreased in all PATHE schools, and the decrease was significant in one of them. The official suspension data also show suspensions to be down in the PATHE schools (except for Courtenay where the relatively low rate remained stable) and up in the comparison school.

One of the four middle schools was dropped in Fall, 1982, because of budget cutbacks. Evidence from this "discontinued" PATHE school is ambiguous: Students reported decreased Victimization and increased Safety while PATHE was operating in the school, and this trend reversed when the program was removed. Also, the suspension rate which had declined nearly tripled after the program was removed. Teachers, on the other hand, reported decreased Victimization and increased Safety while the program was operating, and again after the program was removed. The increases in teacher reports of Safety were highly significant both years.

Individual level. Treatment-control comparisons on the delinquency measures imply that the services to target students did not result in a reduction in delinquent behavior. For most of the delinquency measures examined (Tables 18 and 23) treatment and control students are

roughly equivalent. Exceptions are a) target students at Burke Jr. high report significantly more drug use than do the control students; b) the overall program led to increased drug use among target students, primarily due to Burke Jr.'s significant target-control difference; and c) target students at Rivers and Courtenay were referred to the office less frequently for disciplinary problems.

Attendance

School level. Tables 12 through 17 show that in only one PATHE school did students report an increase in attendance. All other schools experienced declines. The discontinued PATHE school experienced a decline while PATHE was operating, but an increase after the program left. Official school records of attendance (Table 10) show little variation in attendance rates from year to year. Most schools experienced slight increases in attendance rates over the course of the project. A downward trend in official withdrawal rates also is evident in Table 10, but no evidence implies that this trend is due to the PATHE program.

Individual level. Table 21 compares the total number of days officially on the school roles for treatment and control students, and their rates of withdrawal. Students are considered to have withdrawn permanently only if they officially withdrew during the 82-83 year and did not reenter during that year. Number of days enrolled is computed using dates of withdrawal and reentry. The maximum number of possible days of enrollment is 278. (Weekends and holidays are included in the total possible days.)

Table 21 shows that different schools had different effects on retention of students in school. Rivers and Haut Gap were highly succesful at retaining students in school: No 1982-83 target student at Haut Gap withdrew from school during the year, and nearly four times as many Rivers control as treatment students withdrew during 1982-83. Target students at Burke Jr., however, were less likely than their controls to stay in school: Nearly twice as many target as control students withdrew from school permanently during the school year.

An analysis (not shown) of longer-term program effects for only those target students who were randomly assigned in Fall, 1982, and were still enrolled in school in Fall, 1983, shows the same pattern of effects as in Table 21: Haut Gap was successful at retaining its target students. Rivers target students also persisted in school longer than their controls, but not significantly. Burke Sr. target students also remained enrolled in school significantly more days than their controls. Burke, Jr., and Courtenay Middle target students withdrew from school at rates that were significantly higher than their controls.

These differences in retention of students at school cause problems for interpreting treatment-control differences on other outcomes. Because eventual 82-83 dropouts were much "worse" in many respects than were those who stayed in school, greater attrition from the control group would tend to make post-treatment comparisons between the treatment and control groups favor the diminished control group on many measures. The potential effect of attrition on program outcomes was studied by comparing 82-83 treatment and control groups on Spring, 1982,

measures for those schools in which the 1982-83 withdrawal rates were statistically different for treatment and control students. The comparisons were made first for all students who began the 82-83 school year as experimental students, and were repeated for only those students who remained in school for the entire year.

Haut Gap's Table 23 data provide a clear example of the ambiguity introduced by differential dropout from the treatment and control groups. The data show that treatment students started out the 1982-83 year with an advantage over the control students (this was due to a program effect from the previous year). But, four of the "worst" control students and none of the treatment students dropped out during the 82-83 year. The removal of these four students from the control group raises their mean enough so that the treatment group advantage is no longer statistically significant. We would be in error if we concluded, as the results for the students who persisted throughout the 82-83 year at first seem to suggest, that the treatment and control students' 1982 Math grades are not signficantly different. And although the Spring, 1983 grades for the treatment group (Table 20) appear not to be significantly higher than those for the control group, it is probable that the treatment group retained its grade advantage but that the data are misleading because of the attrition problem. Although the Haut Gap results seem to be most affected by the differential attrition, Rivers and Burke Jr. may also be affected.

Table 21 also shows that Burke Sr. High School and Rivers Middle school treatment students attended school more than did the control students. Both the self-report and school records attendance data either reach statistical significance in favor of the treatment group or come close to it. These results are encouraging because the two schools that showed attendance advantages were the middle school that exceeded the intensity standard for the number of contacts and a high school which, although it did not reach the intensity standards, implemented an ambitious attendance monitoring system for the target students.

Academic Achievement

School level. Charleston County School District changed its achievement testing policy in Fall, 1982, so that only grades 7, 8, and 10 were tested and a different form of the CTBS was used. This change, coupled with the consolidation of schools described above, makes a straightforward interpretation of school-level changes in achievement test scores impossible. The 1981 and 1982 achievement test school averages were recalculated to include only those grades tested in 1983. Then a conversion to the scale score averages to equate the different forms of the test was applied (this conversion was made available to C.C.S.D. by the testing company). The 1983 tenth grade results for the consolidated schools are not meaningful indicators of PATHE program effects, so they will not be discussed.

Table 11 presents the comparisons of California Test of Basic Skills scores for the relevant grades for all three years of project operation. Reading test scores for all schools except for the comparison high school rose from 1981 to 1982 and the scores for all schools except the comparison middle school

fell the next year. The percentage of students scoring in the bottom national quartile on the Reading test dropped from 1981 to 1982 for all schools and increased again for all schools the next year. The net change in Reading test scores over the three year period was positive for all schools, but the percentage of students scoring in the bottom quartile of the distribution increased in all PATHE middle schools and decreased in the middle comparison school and in the PATHE high school not affected by the consolidation.

Math test scores for all but two schools (one PATHE middle and the comparison high) increased from 1981 to 1982. All PATHE middle school Math test scores increased from 1982 to 1983. Those for the middle comparison school and the PATHE high school not affected by the consolidation decreased. The percentage of students scoring in the bottom quartile of the national distribution fell from 1981 to 1982 in all schools except one PATHE high and the comparison high. This percentage rose again the next year in all schools except the discontinued PATHE middle school and the PATHE high school not affected by the consolidation. The net change in Math standard scores over the three year period was positive in all schools except one PATHE middle and the comparison middle. The percentage of students scoring in the bottom national quartile increased for the three PATHE middle schools, and decreased for the discontinued PATHE middle, the middle comparison and the PATHE high school not affected by the consolidation.

These results do not lend themselves to easy interpretation. The pattern for the Reading test suggests that the change in the test form used by the district had more of an effect on the test scores than PATHE did. The form used in 1983 appears more difficult than the one used the year before. The scores for all but one school dropped in 1983 and more students scored in the lowest quartile of the national distribution. On the other hand, the net change from 1981 to 1983 was positive for all schools, suggesting that the 1982 score was somehow inflated.

The pattern of changes for Math test scores is less uniform than that for the Reading test scores. St. John's High school has generally positive results: The standard score rose over the three year period and fewer students scored in the bottom quartile of the national distribution. The results for all other schools are mixed and do not lend themselves to easy interpretation.

Retention rates for 1980 through 1983 are shown in Table 10. Retention rates are reported only for middle schools because these statistics are not systematically collected for the high schools. The table shows increasing retention rates over time for all middle schools except Haut Gap.

Individual level. Treatment and control differences in 1982-83 achievement outcomes are shown in Table 20. The achievement test score advantage observed for treatment students at the end of 1981-82 was maintained at the end of the following year. In both years, significantly more control than target students scored in the bottom quartile of the CTBS total battery and the direction of the difference favored the target students in all subareas. A single Spring, 1983, comparison significantly favors the control students.

Target student advantages in promotion rates are statistically significant and practically meaningful for the 1981-82 school year. Target students in all but one PATHE school were promoted to the next grade at a higher rate than the control students. In half of the PATHE schools, the difference was 10% or greater. The advantage is observed again for the 82-83 school year in the same six schools, but the differences are not as large and do not reach statistical significance.

The PATHE program also increased graduation rates. The proportion of target students who graduated in one of the two high schools is more than twice that of the control group. This advantage is likely to be maintained in future years, judging from the promotion differences observed for target students at Burke Sr.

Target students' school grades were significantly higher than those of control students in 1981-82. This advantage was not maintained in 82-83 for most schools. Target students reported receiving higher grades than control students in four of the six PATHE schools, and in one school (Haut Gap), the difference reached statistical significance. This same school has the largest difference favoring treatment students on the official records, and its differential attrition rates suggested a liberal interpretation of treatment-control differences. It is safe to assume, then, that target students' grades were higher than controls in this school.

A plausible speculation is that the overall closing of the grade gap between target and control students is due to more treatment students being promoted in 1982 to the next grade. It may be easier to get good grades in a subject being repeated than in a new subject. Target students who ended up at Courtenay, Rivers, and St. Johns had been promoted at much higher rates the year before (between 13 and 16% higher) than their control students. Also, the initial advantage in grades may have caused target students to be placed in higher level, and hence more difficult, courses than the control students. We have no data on class placement that would enable an examination of this possibility.

PATHE Objectives

In the terminology used by the evaluation structure applied here (G. Gottfredson, 1984), an objective is a short-term outcome a project must achieve to meet its goals. That is, objectives are the states the theory guiding the project implies must exist if goals are to be achieved. For example, project PATHE assumed that positive student self-concept is a prerequisite for reduced delinquent behavior. Therefore, the project sought to improve students' self-concepts as an instrumental step in reducing delinquency. This section reviews evidence about the extent to which PATHE reached the objectives implied by the earlier discussion of the project's rationale and by Figure 1.

Teacher Morale

Tables 12 through 17 show that teacher Morale rose between 1981 and 1983 in two of the three PATHE middle schools and in the PATHE high school. The increase was statistically significant in two of these schools. In the school which discontinued PATHE the morale of the teachers increased while PATHE was in the school and continued to rise after the program was discontinued. Teacher Morale declined in the comparison school.

Planning & Action and Smooth Administration

Teachers in two PATHE middle schools and the PATHE high and students in all PATHE middle schools reported increased Planning and Action between 1981 and 1983. The comparison school declined on this dimension, and the decline reported by teachers was statistically significant. For the discontinued PATHE school, both teachers and students reported a decline on Planning and Action while PATHE was in the school, and an increase after it left. Teachers reported an increase in Smooth Administration in only two PATHE schools. The comparison school experienced a decline on this measure, and the discontinued PATHE school experienced a decline while PATHE was in the school, and then an increase.

Teacher Expectations for Student Achievement

All schools except one PATHE school experienced an increase in teacher's reports of the level of their expectations for students. No increase was significant, nor was the single decrease.

Rewards and Punishments

School level. Students in two of the three middle schools and the high school reported increases in rewards and decreases in punishments. In one school the improvement was statistically significant. The comparison school worsened on these measures, and students in the discontinued PATHE school reported that school was rewarding and not punishing while the program was in place, but this trend reversed after the program was pulled out. The decrease in student reports of rewarding experiences at school after PATHE was discontinued was statistically significant.

Individual level. Target students in all three middle schools and in one high school reported higher levels of school rewards than did the control students. Students in one middle and one high school reported lower levels of school punishment. No difference was statistically significant.

Fairness and Clarity of Rules

According to student reports, all PATHE schools increased on Rule Fairness, and all but one on Rule Clarity from 1981 to 1983. The comparison school got worse, and the discontinued PATHE school began to improve after the program left.

Interpersonal Competency

School level. All three PATHE middle schools improved on this outcome between 1981 and 1983 and the comparison school and the PATHE high school regressed. The discontinued PATHE school improved while PATHE was in the school, but regressed the next year. Only one of the changes--for the discontinued school (while PATHE was operational)--was significant.

Individual level. Target students in half of the PATHE schools reported higher Interpersonal Competency than control students. No difference reached significance.

Self-Concept

School level. All schools--PATHE and comparison--improved on this outcome. For one of the PATHE schools the change from 1981 to 1983 was statistically significant, and for the discontinued PATHE school the score rose while the program was

in the school and declined when it left.

Individual level. Target students in all but one PATHE School reported more positive self-concept than control students, but none of the differences reached statistical significance.

Alienation

School level. All schools--PATHE and comparison--showed decreasing levels of alienation across years. For one of the PATHE schools the change from 1981 to 1983 was statistically significant, and for the discontinued PATHE school the score improved while the program was in the school and declined when it left.

Individual level. Target students in three PATHE schools reported lower levels of alienation than control students, but none of the differences reached statistical significance.

Involvement

School level. No school increased student involvement in extracurricular activities between 1981 and 1983, according to student reports. This is not surprising given that the Charleston schools were extremely high on this dimension at the time of the initial survey. The discontinued school increased while PATHE was operating and declined after the program was stopped.

Individual level. Target students in three PATHE Schools reported more involvement in extracurricular activities than control students, but none of the differences reached statistical significance.

Attachment to School

School level. Students in all PATHE schools grew more attached to school between 1981 and 1983 and students in the comparison school grew less attached. The changes were statistically significant in two PATHE schools and in the comparison school. The discontinued school improved while PATHE was operating and declined after the program was stopped.

Individual level. Target students in two PATHE schools reported greater attachment to school than control students, but none of the differences reached statistical significance.

Educational Expectations

School level. Students' expectations for educational attainment increased from 1981 to 1983 in only two of the PATHE schools--one middle and one high. They also improved in the comparison school. The improvement in the PATHE middle school was statistically significant. The discontinued PATHE school never improved on this measure.

Individual level. Target students in two PATHE School reported higher educational expectations than did control students, but none of the differences reached statistical significance.

Belief in Rules

School level. Belief in Rules increased for all PATHE and control schools. The improvement was statistically significant in two of the PATHE schools. No improvement was observed for this outcome in the discontinued PATHE school.

Individual level. Target students in three PATHE schools reported greater Belief in Rules than did control students, but none of the differences reached statistical significance.

A Closer Look at the Stronger Realizations of PATHE

The evaluation results for those PATHE schools with the best records of accomplishment will be highlighted in this section. This closer examination of only the most successfully implemented program sites provides some sense of what results might be expected if the program were implemented as intended. Only one of the six schools achieved the program standard of three contacts per month with target students. Similar variation existed for some other program components. St. John's high school excelled in generating school-wide student involvement in PATHE activities, and Haut Gap Middle excelled in involving teachers in improving school-wide academic achievement. The Burke Sr. campus probably came closest to the PATHE ideal implementation, but we are unable to disentangle the effects of the school consolidation from the effects of the program. Burke Sr. will not be discussed here.

Tables 24 and 25 show evaluation results for the 1981-83 period of program services for Haut Gap Middle, St. John's High School and the comparison middle school. *t*-statistics are shown only for the subset of outcome measures that are most central to the action theory shown in Figure 1. Table 24 reports results for the student outcomes in the rightmost portion of the theory diagram (Figure 1), and Table 25 does the same for the school factors theorized to effect those student outcomes.

Delinquent behavior. Both Haut Gap and St. John's experienced a decline in level of delinquency from 1982 to 1983, and the comparison school experienced a substantial increase. St. John's high school showed a highly significant decline in delinquency over the course of the program. We were prohibited from asking middle school students about their delinquency experiences during the first survey administration, so only a comparison of 1982 to 1983 scores is possible.

Other outcomes. Scanning across the measures of student factors targeted by the program, we find that Haut Gap Middle School improved on five of the seven factors and that the improvements in Self-concept, School Attachment and Educational Expectations reached significance. By contrast, the comparison middle school improved on only two of these measures, and its students grew significantly less attached to school. St. John's high school moved in the desired direction on six of the seven measures of student intermediate outcomes, although none of these improvements reached significance.

Table 25's results are similar. Haut Gap Middle school improved on all nine measures of school factors. The improvements in Teacher Morale, Belief in Rules and Alienation reach significance. St. John's high school improved on all but one of the nine, and the improvement in Teacher Morale was highly significant. The comparison school improved on about half of the measures, and grew significantly worse on the Planning and Action dimension.

A closer look at Rivers Middle, the only school that implemented the target student services up to program standard, reveals a trend favoring target students. 1981-82

survey results indicated a significant treatment effect on self-reported Serious Delinquent Behavior and a trend favoring target students on other delinquency outcomes. The 1981-82 target students also failed fewer subjects and were promoted to the next grade at a higher rate than their controls. Tables 18 through 22 show that in 1982-83, about four times as many control as target students withdrew from school, and control students were referred to the office for disciplinary problems significantly more than target students. Target students had fewer unexcused absences from school, and reported higher attendance and grades on the SAES survey. They also reported more positive self-concepts, higher educational expectations, greater involvement in extracurricular activities, more rewarding experiences in school, and fewer punishing experiences in school. None of these self-report differences were large or statistically significant, but they do suggest a trend favoring treatment students that is masked when all schools are examined.

Summary of Outcome Evaluation

School Level

Comparisons of changes in school averages must be approached with more skepticism than comparisons of PATHE treatment and control students because we had no control over assignment of schools to treatment and control conditions. The PATHE and comparison schools were not equivalent before the treatment began, and we cannot say with certainty that the observed changes from year to year are due to the PATHE program. It is possible that other factors contributed to the observed improvement in the PATHE schools. The school consolidation further weakened the school-level design by reducing the number of PATHE schools that could be examined for climate differences and by swallowing the high school comparison school.

The 1981-82 school year appears to have been a more productive year than 1982-83 for overall school improvement. This might reflect either the program design decision to intensify target student services in the latter year or a winding-down effect as personnel began to consider what they would do after PATHE ended. Even so, PATHE's school climate improvement efforts were apparently effective each year. During 1982-83 PATHE schools improved on 62 percent of the measures shown on Tables 12-17. The comparison school improved on only 32 percent during the same period. Between 1981 and 1983, PATHE schools improved on 75 percent of the measures and the comparison school on only 36 percent.

Figure 3 summarizes PATHE's effect on measures of delinquent behavior and school disruption. The figure summarizes survey data for student self-reports of Serious Delinquency, Drug Use, and Suspensions as well as teacher and student reports of Victimization and school Safety. Results for the consolidated high schools (Burke Jr., Burke Sr, and Charleston) and for the discontinued middle school (Rhett) are based on change from 1981 to 1982. All other results are based on change from 1981 to 1983. The figure provides persuasive evidence that the program succeeded at decreasing school disruption. The program schools improved on about 85% of the measures of school disruption, while one comparison school improved only on 60% and the other only on 28%. Six of the seven program schools appear more orderly

according to one or more of the disruption measures that reached conventional statistical significance levels. Neither of the comparison schools' improvements reached this level.

PATHE also moved closer to many of its school-level objectives. Figure 4 summarizes the over-all school-level effect on measures of the objectives implied by the PATHE action theory, Figure 1. Again, results for the consolidated high schools and Rhett Middle School are based on change from 1981 to 1982 for the high schools, and results for other schools on change from 1981 to 1983. This figure summarizes all outcomes in Tables 12-17 except for measures of delinquency and school disorder summarized in Figure 3 (and for the total Delinquency Scale which is not summarized in either figure because it is redundant). Figure 4 implies that if PATHE's theory is correct, the populations in the PATHE schools are less at risk for socioeconomic failure and delinquency as a result of the program. All PATHE schools together improved on 72% of the PATHE objectives, while one campari-son school improved on 29% and the other on only 18%.

The most impressive outcome favoring the PATHE schools is that for School Attachment--a key risk factor for delinquent behavior according to the PATHE theory and a leading delinquency theory (Hirschi, 1969). Students in every PATHE school grew more attached to their schools. The difference was statistically significant in three of the schools and approached significance in the fourth. Students in the discontinued PATHE school grew more attached to school while the program was operating, and less attached when the program was removed. Students in the comparison school grew significantly less attached to school.

Other outcomes show similar, although not quite as dramatic, effects: Students in all PATHE schools reported increased Rule Fairness and the control school students reported a decline. Students in all schools--PATHE and comparison--reported increases in Self-Concept, Belief in Rules, and Safety and decreases in Suspensions and Alienation, but the changes reached statistical significance in one or more PATHE schools but not in the comparison school. Finally, teachers in all PATHE middle schools reported less Victimization, and the difference was statistically significant in one school. Teachers in the comparison school reported more victimization.

Statistically significant improvements were observed between 1981 and 1983 for one or more PATHE schools on the following student outcomes: Delinquent Behavior, Drug Involvement, Alienation, School Rewards, Self-concept, School Attachment, Educational Expectations, Belief in Rules, and Safety. In addition, teachers in one or more PATHE schools reported increased Morale and decreased Victimization. These results were statistically significant. Significant decreases in Self-reported Suspensions were also observed for one or more PATHE schools during the 1982-83 year. No significant improvements were observed for the comparison school, and significant decreases in School Attachment, Planning & Action and an increase in Serious Delinquency (1982-83 only) were evident for the comparison school.

Examination of Rhett Middle School--the school that was dropped

due to budget cutbacks--provides an interesting comparison. The student attitudinal outcomes which PATHE was most successful at altering--Self-concept, Alienation and School Attachment--all improved while PATHE was operational and declined after the program was removed. Student and teacher reports of several climate dimensions showed the opposite pattern, however: Improvement in Planning and Action, Smooth Administration, Rule Fairness and Rule Clarity came only after PATHE was discontinued.

Individual Level

Figure 5 summarizes the delinquency outcome comparisons of treatment and control students. The left bar for each school shows the percentage of treatment and control comparisons that favored treatment students for the 81-82 and 82-83 years on the following outcome measures: Serious Delinquent Behavior, Drug Involvement, arrests, suspensions, Victimization, and disciplinary infractions--both minor and major. The graph shows that in only one of the seven PATHE schools did the treatment students fare better than the control students on these measures.

The target student program component had an overall positive effect on academic achievement, however, and three of the PATHE schools were able to retain their target students in school at significantly higher rates than their control students. Two schools also increased target students' attendance rates relative to the control groups' attendance.

A trend favoring target students on the intermediate student outcomes in Figure 1 is evident for the PATHE middle schools, and especially for Rivers Middle School--the school with the highest level of implementation--and Rhett Middle School--the school that was dropped from the program in Fall, 1982. The second bar for each school in Figure 5 summarizes this trend. This graph summarizes all intermediate outcomes implied by the PATHE theory in Figure 1. Treatment-control comparisons for the 1981-82 and the 1982-83 school years are summarized in the figure, but for Rhett Middle only the 1981-82 comparisons are included because no treatment was provided during 1982-83.

This evaluation of Project PATHE suggests:

1. Only one of six schools met program standards for implementation of target student services, although in the third year these services were strengthened three-fold over the previous year's level.

2. The target student interventions increased academic achievement, retained students in school who would otherwise have left, promoted more students to the next grade level and graduated more high school seniors than would have been expected. Some schools were successful at increasing school attendance among high-risk youths. These positive effects on academic outcomes must be counterbalanced aqainst an increase in drug involvement reported by target students.

3. In the only school that implemented the target student services up to program standards, target students withdrew from school significantly less often, were promoted to the next grade and attended school more often, and were referred to the office for disciplinary reasons significantly less often than their equivalent controls. The target students also reported higher attendance and grades, more positive

self-concepts, higher educational expectations, greater involvement in extracurricular activities, more rewarding experiences in school, and fewer punishing experiences in school. None of the differences for these self-reported outcomes were large or statistically significant, but they do suggest a trend favoring target students that is not apparent when all schools are examined.

4. The program as implemented for high risk students was not effective for reducing delinquent behavior.

5. During 1982-83 PATHE schools improved on 62 percent of the PATHE goals and objectives measured by the SAES survey. The comparison school improved on only 32 percent. Between 1981 and 1983, PATHE schools improved on 75 percent of the measures and the comparison school on only 36 percent.

6. Students in every PATHE school grew more attached to their schools. The difference was statistically significant in three of the schools and approached significance in the fourth. Students in the discontinued PATHE school grew more attached to school while the program was operating, and less attached when the program was removed. Students in the comparison school grew significantly less attached to school.

7. Students in all PATHE schools reported increased Rule Fairness and the control school students reported a decline. Students in all schools--PATHE and comparison--reported increases in Self-concept, Belief in Rules, Safety and decreases in Suspensions and Alienation, but the changes reached statistical significance in one or more PATHE schools and not for the comparison school. Teachers in all PATHE middle schools reported less Victimization, and the difference was statistically significant in one school. Teachers in the comparison school reported more Victimization.

8. Statistically significant improvements were observed between 1981 and 1983 for one or more PATHE schools on the following student outcomes: Delinquency, Drug Use, Alienation, School Rewards, Self-concept, School Attachment, Educational Expectations, Belief in Rules, and Safety. In addition, teachers in one or more PATHE schools reported increased Morale and decreased Victimization. These results were statistically significant. Significant decreases in self-reported suspensions were also observed for one or more PATHE schools during the 1982-83 year only. No significant improvements were observed for the comparison school, and significant decreases in School Attachment, Planning & Action and an increase in Serious Delinquency (1982-83 only) were evident. The PATHE schools did not grow significantly worse on any dimension.

9. Examination of Rhett Middle School--the school that was dropped due to budget cutbacks--provides an interesting comparison. This school improved on several outcomes during the 1981-82 school year when the program was operating. We collected outcome data for this school after the 1982-83 school year in order to examine the extent to which the school regressed to its pre-program state after the program was removed. We found that the student attitudinal outcomes which PATHE was most successful at altering--Self-concept, Alienation and School Attachment--all improved while PATHE was operational and declined after the program was removed. Student and teacher reports of several climate dimensions showed the opposite pat-

tern, though: Improvement in Planning & Action, Smooth Administration, Rule Fairness and Rule Clarity came only after PATHE was discontinued. This pattern is unexpected and perplexing. Unfortunately, we have no knowledge about what went on in the school after the program was removed so cannot suggest any explanations.

Conclusion and Discussion

This final section presents some interpretations, conclusions, and recommendations based on the evaluation results reported in earlier sections.

School-level Program

Taken together, the evidence implies that PATHE was an effective program for reducing delinquency and its risk factors for school populations. It is not clear which of the many program components were responsible for these positive outcomes. Attempts by the national evaluation staff to dissect the program were usually discouraged by the program managers: They believed that the program's effectiveness resulted from its holistic approach to educating and socializing youth. The evaluation evidence does suggest, however, that the increases in school orderliness resulted from increases in students' positive self-concepts and attachment to school and from clearer and fairer school rules.

Some general program features were probably instrumental in PATHE's success. The project was guided by a few simple principles: involving school staff in the change process, improving school management, and intervening at several different points in the student's life. Implementation records tell us that PATHE increased teacher and student participation in the school change effort--particularly through its team structure. Observed increases in Morale and reports that the schools were places where things were happening most likely resulted from these efforts. Implementation records also indicate that PATHE influenced several domains of the students' lives: Academic, affective and career-related activities were successfully carried out.

Another factor that probably contributed to the success of the school-level program was the existence of a theory of action. The program managers shared a set of beliefs about their schools' problems. Their day-to-day decisions were guided by a common approach to school improvement. They also kept in the front of their minds the primary objectives of the program: They were trying to increase the socioeconomic standing and conventional behavior of their students by increasing attachment to the school, positive self-concepts and rewarding experiences in school. Decisions about specific program activities were made with these objectives firmly in mind.

Probably most important, the program was well-managed. Standards for performance existed and were monitored. Expectations were clear.

Direct Services

The direct services to high-risk youths were effective at increasing commitment to education among students targeted for these services. These students earned higher achievement test scores and grades, attained higher promotion and graduation rates, attended school more often, and dropped out of school less frequently than did their equi-

valent control students. Only for the achievement test and graduation results was the target student advantage statistically significant across all schools. (The other results apply only to certain schools.) Nevertheless, the results in the academic area for target students are impressive and promising: According to social control theory (Hirschi, 1969) increased commitment to education will result in an eventual reduction in delinquency, and low grades are a well-known risk factor for delinquent behavior (Silberberg & Silberberg, 1971). A follow-up evaluation of the treatment and control students will be necessary to examine this possibility.

Little evidence supported of the efficacy of the target student services for reducing delinquency among "high risk" individuals in the short run. Indeed, some evidence points to an increase in drug involvement for target students. It is promising that the only school that favored the treatment students on delinquency outcomes is the only school that implemented the target student program up to the standards set by the program managers. Also, the only school in which treatment students reported significantly more delinquency than control students--Burke Jr.--is the school that had the weakest target student program. This pattern of results suggests that strengthening the target student program may increase its efficacy as a delinquency prevention intervention.

Evidence about the intensity and quality of program services have implications for strengthening the interventions for target students.

Intensity of target student services. The target student program had most positive outcomes in the schools with the most contacts with target students and fewest positive effects in the school with fewest contacts. We cannot be certain that increasing the number of contacts would have increased program effectiveness in the unsuccessful schools because the quality of services may be confounded with their intensity. Some evidence suggests that increasing the intensity of program services that are weak to begin with may be harmful: Burke Jr., where observations suggest that the quality of program services was low, actually increased its intensity of program services relative to other schools from 1981-82 to 1982-83, but it moved from no effect in the 81-82 school year to a negative effect on some outcomes in 82-83. On the other hand, Burke Sr., where we have evidence that the quality of the services was high, actually decreased intensity relative to other schools over the two year period, but showed more evidence of efficacy.

Quality of target student services. Theory is a useful tool for selecting interventions, and it is also an essential guide for program operations. Program implementers need templates to guide daily interactions and decisionmaking because without guidelines they must rely on their own personal theories. In such cases the program may quickly be modified in unpredictable ways to accord with the personal views of the individuals implementing the program.

PATHE's services to treatment students were not guided by a theory of action to the same extent that that the school-wide activities were. The theory diagramed in Figure 1 evolved over the three years of project operation. The major change to the PATHE theory resulting

from program development efforts was the highlighting of the intermediate student factors on the right of Figure 1, and this did not occur until the Spring of the final year of program operations. The school factors in the figure had always been theorized as causal factors, and program activities aimed at altering those factors had always been a part of the program's plans.

The specialists who implemented interventions in the schools on a day-to-day basis may have been largely unaware of the theory underlying the program. They never engaged in program development activities aimed at clarifying the theory, and the program managers' interactions with the specialists were aimed primarily at clarifying implementation standards, providing technical assistance, and monitoring program activities. Although specialists were oriented to the PATHE philosophy in August, 1980, the main idea conveyed during that orientation was the same theme that ran through the grant proposal: An integrated approach to the problem of discipline is necessary, and schools must attend to the affective as well as to the academic needs of students. The importance of self-concept, rewarding experiences, and social bonding were never made explicit to the specialists.

Interviews with the specialists during the final year of project operations support this interpretation. Great variation among specialists was observed in the extent to which they understood the principles underlying the project. For example, in response to the question, "How does PATHE affect delinquency?" I received responses that ranged from "It doesn't; we let the school administration handle the hard cases" to a full-blown explanation of how the program is expected to decrease delinquency by increasing self-concept and creating a "sense of belonging" in the school. Somewhere in between were explanations citing the importance of intermediate student factors other than those emphasized in the PATHE theory. All specialists emphasized academic achievement for target students, but few placed equal emphasis on improving self-concept and strengthening social bonds.

The low level of implementer awareness of the underlying program theory was probably more detrimental to the direct service interventions than to the school-wide interventions. The quality of the school-level activities was more standardized than were the individual services. We have no way of knowing exactly what went on in individual counseling or tutoring sessions with the target students, but it is possible that specialists focused on student attitudes and behaviors other than those specified in the theory. In short, specialists had considerable freedom to exercise professional judgement in their direct contacts with target students. The common focus on academics may explain the treatment program's success in increasing academic achievement, and the low level of consensus about the affective student objectives may explain the absence of treatment effects in these areas.

The PATHE experience implies that altering the school organization can be an effective approach to delinquency prevention. Involving the school staff, students and community members in planning and implementing change; using information to identify weaknesses and focusing resources on those weaknesses; retraining school staff when neces-

sary; making changes in the curriculum and discipline procedures in the school; and creating clear standards for implementer performance is a difficult collection of accomplishments that are difficult to achieve. But taken together, these activities can lead to reductions in school disruption. In contrast, the application of roughly the same level of resources to provide what--for a typical school system--is intensive tutoring and counseling services appears not to have reduced delinquency, at least not in the short run. This is not to say that carefully designed and implemented treatment programs cannot work to increase school orderliness. Indeed, research has demonstrated some treatment strategies to be effective (Alexander & Parsons, 1973; Patterson, McNeal, Hawkins, & Phelps, 1967). The present results suggest, however, that the kind of treatment program most likely to be implemented by the typical school system is less efficacious than an organizational-level change.

Recommendations

The evaluation results, and our experiences in conducting the evaluation, suggest the following set of recommendations for future prevention field trials.

1. The personnel implementing the program on a day-to-day basis should be intimately familiar with the rationale underlying the program.

2. Program managers should make use of technologies and materials which evidence implies will be efficacious for moving the program towards its goals and objectives. Some well-tested educational technologies (e.g., Student Team Learning techniques) were included in the program design, but others were overlooked.

3. Conditions necessary for evaluating demonstration projects need to be explored more fully and early agreement about the terms of the evaluation must be agreed upon by the sponsor, the local district and the evaluator. Charleston County's decision to change achievement testing practices resulted in a loss of valuable evaluation information. Had we been aware of the plan to change tests we could have administered a different achievement test to students in the PATHE and comparison schools for the duration of the project.

4. Federal commitment to the evaluation of field trials of diverse theory-based approaches to delinquency prevention must be maintained. Initiatives like the Delinquency Prevention through Alternative Education project should be more impervious to changes in administrative agendas. It makes no sense to discontinue a program of research and development that is yielding concrete knowledge about delinquency prevention.

5. Funding for future research and development projects should be more stable and predictable than it was for the Alternative Education Initiative. Valuable program resources were expended on revising the program design of the PATHE project to cope with budget cuts. These program changes introduced ambiguity into the evaluation of the project. The timing of the funding was also less than optimal. A fourth and perhaps fifth year of program operation would have provided an opportunity to strengthen the program. Such an extension might have been granted to only those projects, like PATHE, that showed promise and a willingness to continue to develop their programs based on evaluation evidence.

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FIGURE 1

PROJECT PATHE ACTION THEORY

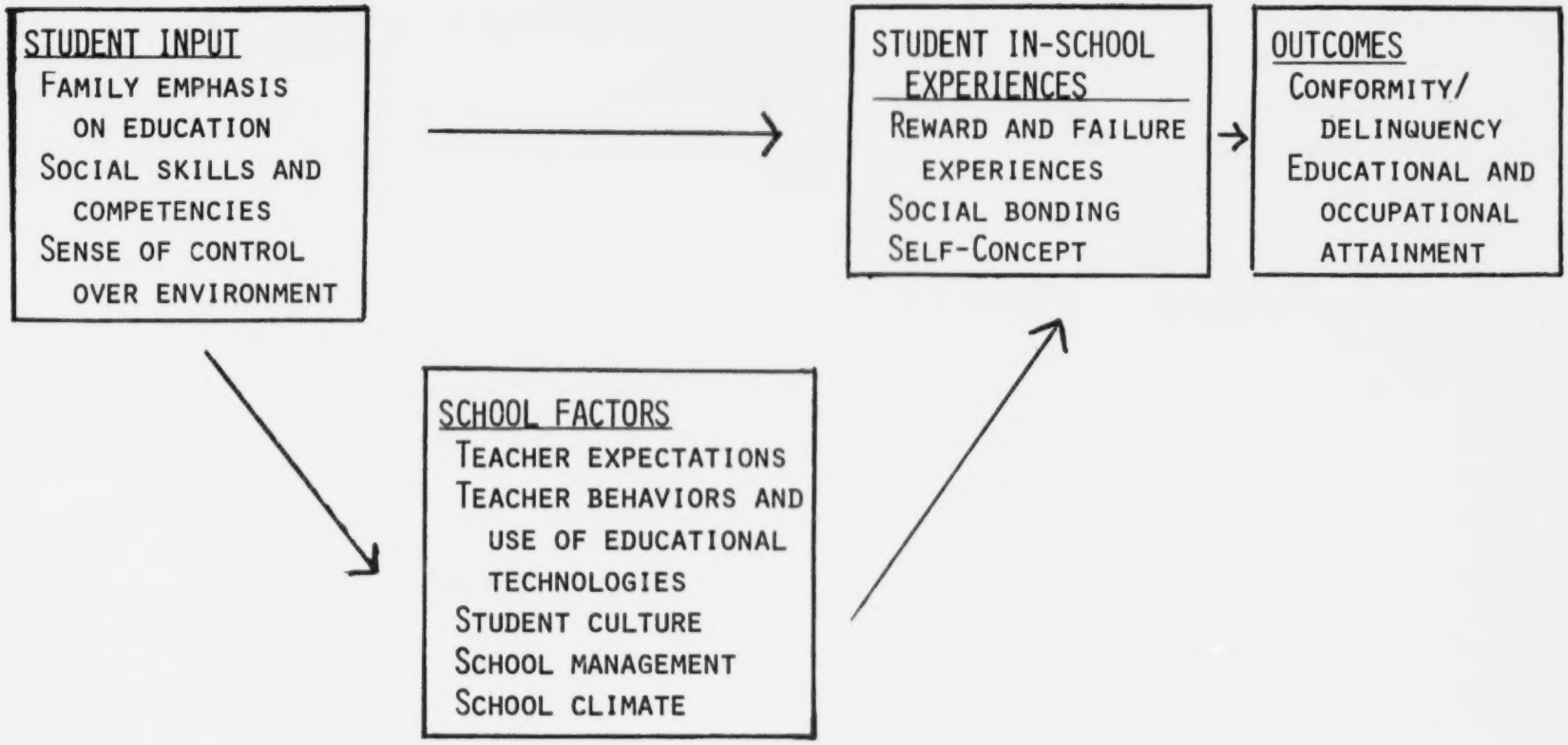

Figure 2

Summary of PATHE Program Components

I. Organizational-Level Innovations
   1. Curriculum Review and Revision
      a. Review and revise curriculum (includes planning to improve curriculum and implementing a plan involving teacher training)
      b. Curriculum resource room
      c. Curriculum guide
   2. Discipline Review and Revision
      a. Review and revise disciplinary policies and procedures (includes planning to improve school discipline and implementing a plan involving teacher training)
      b. Disciplinary referral system
      c. Publicize school and classroom rules
   3. Teams
      a. Student Leadership Team
      b. Parent Leadership Team
      c. Student Concerns Support Team
      d. Curriculum Support Team
   4. Business-Education Partnership*
   5. Faculty-Administration Team-Building*

II. School-Level Academic Innovations
   1. Study Skills Program
   2. Reading Experience Program
   3. Test-Taking Skills Program
      a. Mini-tests
      b. Motivational activities (school and community)
   4. Field Trips
   5. Student Team Learning

III. School-Level Affective Innovations
   1. Student Involvement
      a. School Pride Campaign
      b. Extracurricular Activities
   2. Group Counseling* (Peer counseling or RAP sessions)

IV. Career Exploration*
   1. FACET and engineering, allied health and secretarial programs with local colleges.
   2. Job-Seeking Skills

V. Target Student Services
   1. Diagnosis
   2. Tutoring
   3. Monitoring

*Implemented only at the high school level during the 1982-83 school year.

Figure 3

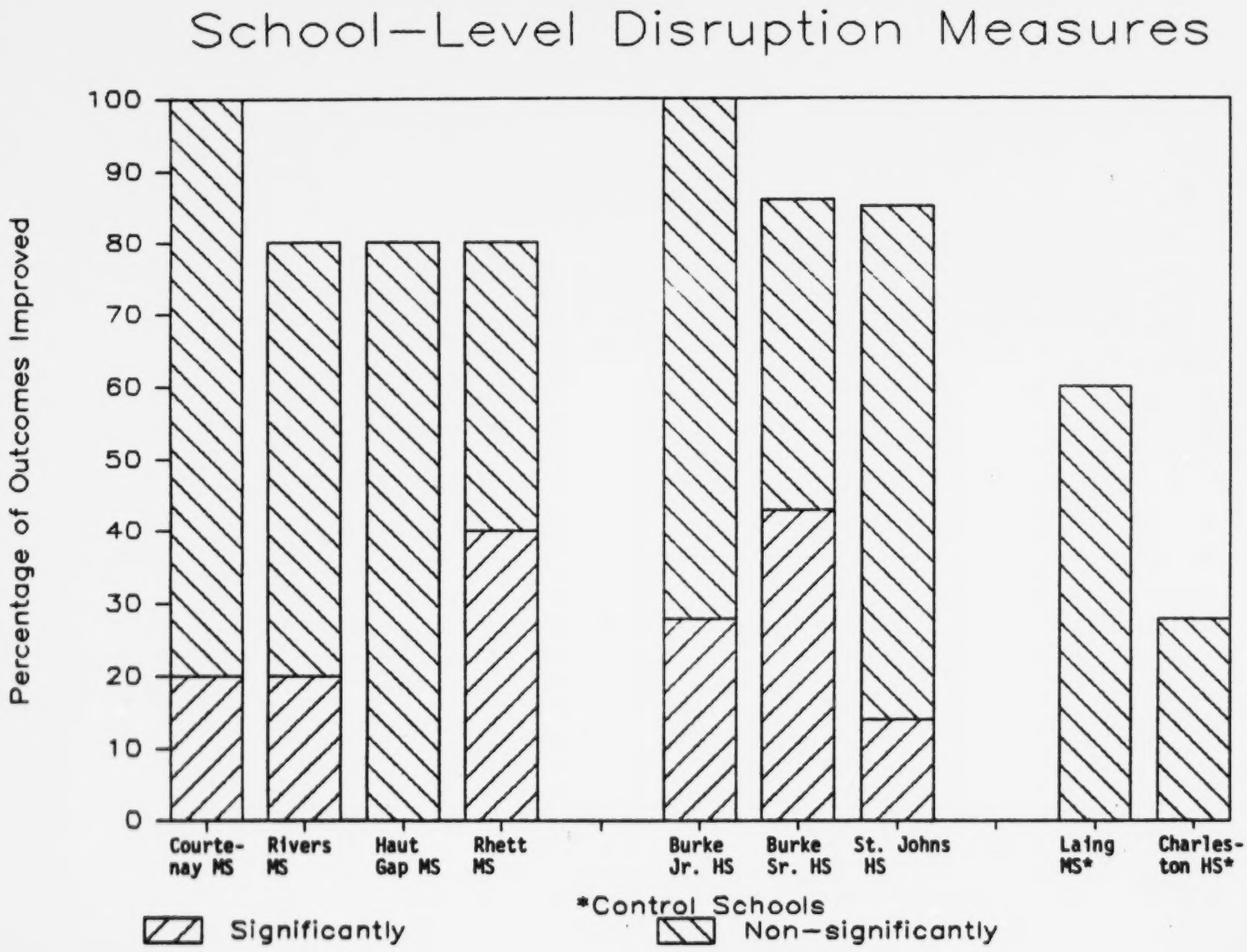
School—Level Disruption Measures
Percentage of Outcomes Improved
100
90
80
70
60
50
40
30
20
10
0
Courte-nay MS
Rivers MS
Haut Gap MS
Rhett MS
Burke Jr. HS
Burke Sr. HS
St. Johns HS
Laing MS*
Charles-ton HS*
*Control Schools
Significantly
Non—significantly

Figure 4

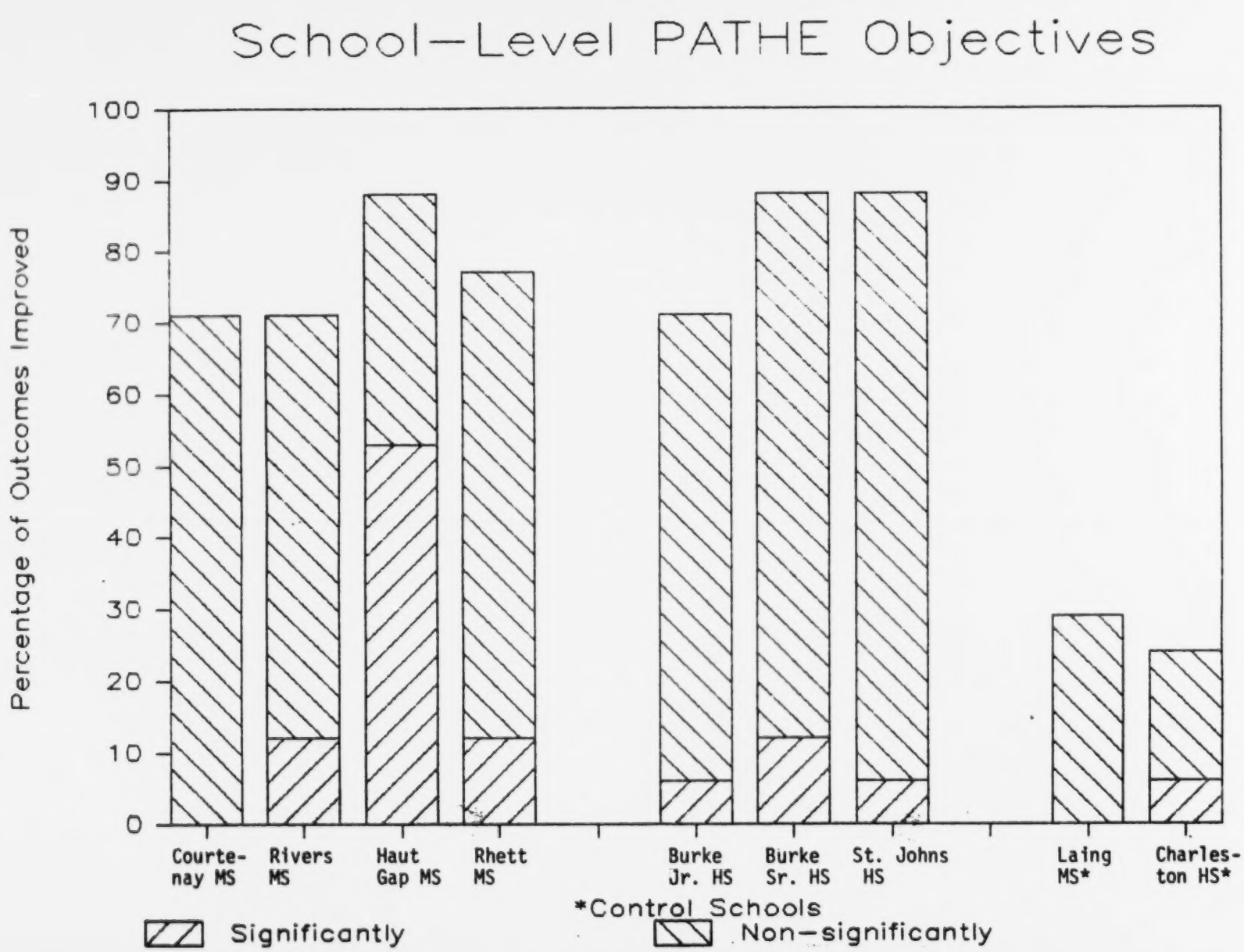
School—Level PATHE Objectives
Percentage of Outcomes Improved
100
90
80
70
60
50
40
30
20
10
0
Courte-nay MS
Rivers MS
Haut Gap MS
Rhett MS
Burke Jr. HS
Burke Sr. HS
St. Johns HS
Laing MS*
Charles-ton HS*
*Control Schools
Significantly
Non—significantly

Figure 5

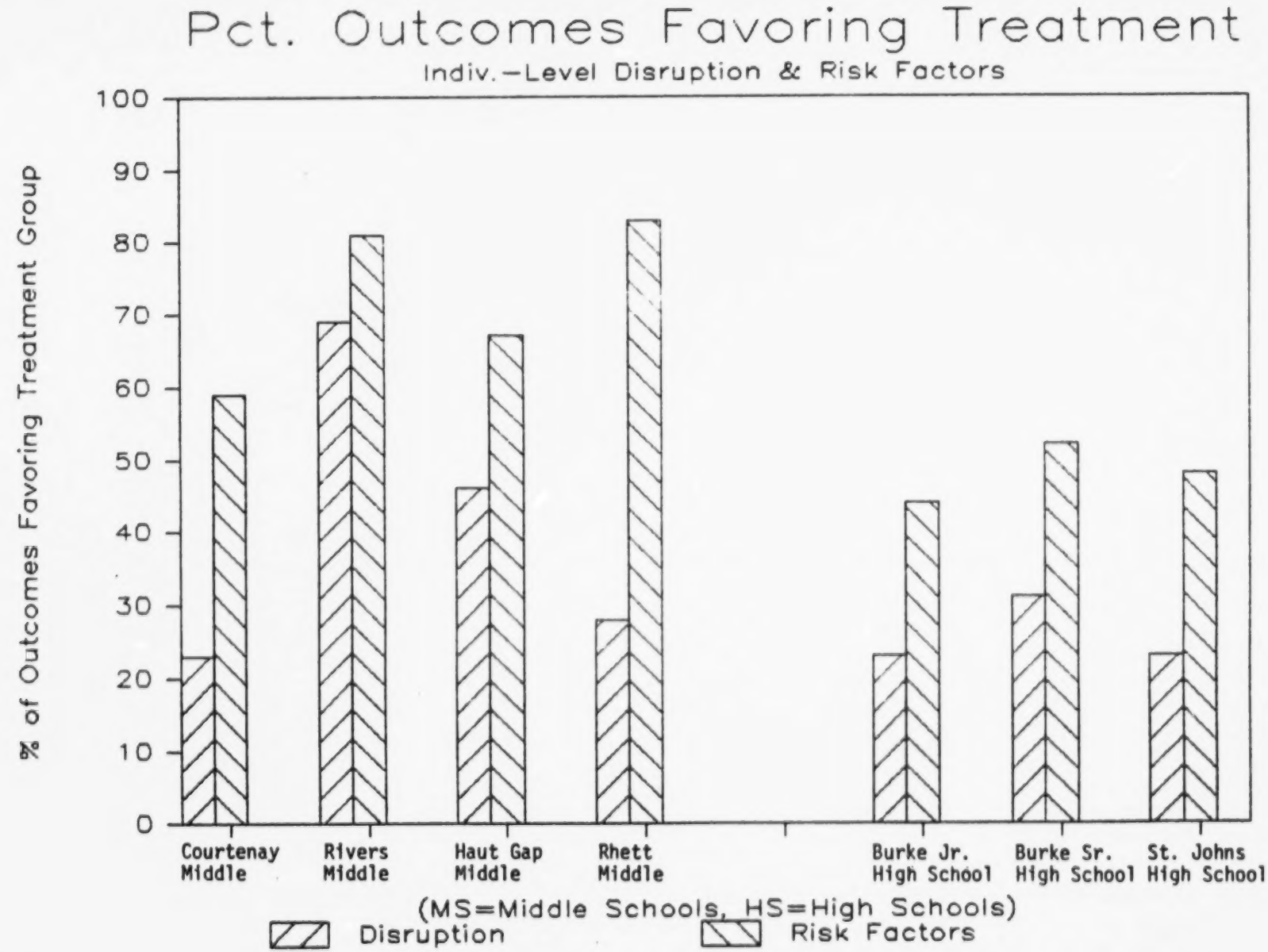
Pct. Outcomes Favoring Treatment
Indiv.-Level Disruption & Risk Factors
% of Outcomes Favoring Treatment Group
100
90
80
70
60
50
40
30
20
10
0
Courtenay Middle
Rivers Middle
Haut Gap Middle
Rhett Middle
Burke Jr. High School
Burke Sr. High School
St. Johns High School
(MS=Middle Schools, HS=High Schools)
Disruption
Risk Factors

Table 1

Spring 1981 California Test of Basic Skills Standard Scores
for Target and Control Groups, by School

		Reading			Math			Language			Totals: Original			Totals: Final		
		M	SD	N	M	SD	N	M	SD	N	M	SD	N	M	SD	N
Courtenay																
Target	(N=83)	376	68	79	389	56	78	402	65	79	363	68	78	365	68	74
Control	(N=80)	374	62	77	388	53	76	397	60	77	361	60	76	362	60	73
Rhett																
Target	(N=62)	415	58	60	407	55	61	423	65	60	390	62	60	389	63	55
Control	(N=54)	406	64	50	405	42	49	420	59	50	388	51	49	389	52	46
Rivers																
Target	(N=86)	400	65	77	396	50	79	414	59	77	380	54	77	382	53	68
Control	(N=75)	399	70	65	400	43	66	419	63	66	383	56	64	382	59	56
Haut Gap																
Target	(N=65)	407	69	59	401	46	58	422	60	59	387*	58	57	385	54	51
Control	(N=23)	378	48	21	378	51	21	354	57	21	354	53	20	358	47	18
Brown																
Target	(N=83)	449	77	73	456	70	70	466	69	73	445	75	70	448	74	58
Control	(N=80)	450	68	71	455	66	70	457	66	71	440	69	70	439	68	61
Burke																
Target	(N=80)	442	82	79	424	63	74	444	78	79	414	69	73	418	72	61
Control	(N=77)	436	81	75	424	62	71	441	71	75	414	71	71	420	68	57
St. Johns																
Target	(N=78)	469	87	65	458	78	64	466	74	66	450	83	62	449	85	43
Control	(N=76)	464	69	64	453	71	62	454	72	65	442	73	60	430	69	48
All schools																
Target	(N=540)	422	79	492	418	66	484	434	71	493	403	74	477	402	73	410
Control	(N=464)	419	75	423	418	63	415	430	68	425	402	71	410	400	69	359

*Difference between target and control groups is significant at the $p<.05$ level.

[a]Figures under the "original" column represent group averages for all 1981-82 target and control students who took the CTBS test in Spring, 1981. Figures under the "final" column represent averages for all target and control students who took the Spring, 1981 CTBS test as well as the Spring, 1982 CTBS test. Total N's (in parentheses) are the number of cases initially randomized into treatment and control conditions.

Table 2

Means and Standard Deviations
for Teacher Referrals to PATHE
and Number of Suspensions, 1980-81

		Number of referrals to PATHE		Number of suspensions	
		M	SD	M	SD
Courtenay					
Treatment	(N=83)	.61	.49	.06	.24
Control	(N=80)	.54	.50	.08	.31
Rhett					
Treatment	(N=63)	.46	.50	.25	.57
Control	(N=52)	.58	.50	.17	.43
Rivers					
Treatment	(N=85)	.53	.50	.25	.53
Control	(N=75)	.63	.49	.12	.40
Haut Gap					
Treatment	(N=64)	.50	.50	.12	.33
Control	(N=23)	.39	.50	.00	.00
Brown					
Treatment	(N=81)	.63	.48	.63	.86
Control	(N=78)	.50	.50	.58	.75
Burke					
Treatment	(N=86)	.20	.40	.24	.51
Control	(N=80)	.18	.38	.31	.61
St. Johns					
Treatment	(N=78)	.46	.50	.77	1.02
Control	(N=76)	.43	.50	.88	1.36
All schools					
Treatment	(N=540)	.48	.50	.34	.68
Control	(N=464)	.46	.50	.35	.78

Note. Total N's (in parentheses) are numbers of cases initially randomized into treatment and control conditions.

Table 3

Post Randomization Check for Students
Added to Experiment in Fall, 1982

School	CTBS Total Spring, 1981			Gender			Age			Parental Education		
	M	SD	N	M	SD	N	M	SD	N	M	SD	N
Haut Gap												
Treatment	381	31	9	.44	.53	9	13.2	.5	9	1.50	.84	6
Control	385	42	3	.33	.58	3	13.8	1.0	3	2.00	1.41	2
Burke Jr.												
Treatment	426	59	9	.70	.48	10	16.5	.9	6	2.00	.79	5
Control	391	71	9	.78	.44	9	16.7	1.0	9	2.33	.76	3
Burke Sr.												
Treatment	463	53	28	.40	.50	30	17.6	1.1	30	1.93	1.31	15
Control	471	45	28	.57	.50	30	17.5	1.0	30	1.69	1.03	18
St. Johns												
Treatment	443	57	28	.64	.49	33	17.1	1.3	33	1.68	.90	17
Control	456	37	30	.61	.50	33	16.5	1.3	33	1.54	.86	23

Note. "CTBS total, Spring, 1981" is the standard score for the entire California Test of Basic Skills Battery administered to all students in the Spring of 1981. Gender is coded 1=male, 0=female. Parental education is taken from the Spring, 1981, SAES survey. No difference between the treatment and control group means is statistically significant.

Table 4

Flow of Students in PATHE Experiment, 1981-1983

	School							
	Courtenay	Rhett	Rivers	Haut Gap	Burke Jr.	Burke Sr.	St. Johns	Total
Treatment								
Randomly selected, Fall '81	83	63	85	64	81	86	78	540
Lost between Fall '81 and due to:								
Permanent withdrawal from school	5	6	8	6	22	25	20	92
Transfer to another PATHE school	16	10	16	13	35	27	1	118
Removal from treatment status[a]	7	47	2	2	0	1	3	62
Gained between Fall '81 and Fall '82 due to:								
Transfer from another PATHE school	0	0	0	0	70	35	13	118
Randomly selection, Fall '82	0	0	0	9	10	30	32	81
Total, Fall 1982	55	0	59	53	104	98	99	468
Lost due to permanent withdrawal from school	5	0	3	0	30	13	20	71
Total, Spring 1983	50	0	56	53	74	85	79	397
Control								
Randomly selected, Fall '81	80	52	75	23	78	80	76	464
Lost between Fall '81 and Fall '82 due to:								
Permanent withdrawal from school	9	5	3	0	20	25	20	82
Transfer to another PATHE school,	9	10	19	4	27	23	0	92
Removal from control status[a]	2	38	4	0	5	6	2	57
Gained between Fall '81 and Fall '82 due to:								
Transfer from another PATHE school,	1	1	1	0	59	27	4	92
Random selection, Fall '82	1	0	0	3	9	30	33	76
Total, Fall '82	62	0	48	21	93	79	91	401
Lost due to permanent withdrawal from school	1	0	11	4	16	8	10	50
Total, Spring '83	61	0	37	17	77	71	81	351

[a]Removal from treatment or control status resulted from withdrawing PATHE from Rhett Middle School and from ambiguity about the students' enrollment status in other schools.

Table 5

PATHE Specialist Contacts

	1981-1982				1982-1983			
	% students in school contacted	Avg. no. contacts per student			% students in school contacted	Avg. no. contacts per student		
		Entire school	Target	Control		Entire school	Target	Control
Courtenay Middle								
Total Affective	--[a]	2.49	4.21	2.89	.37	1.92	10.95	.97
Total Academic	--[a]	.71	2.16	.35	.14	1.09	9.42	.08
Total Career	--[a]	.00	.00	.00	.04	.08	.04	.06
Total Contacts	.72	3.29	6.35	3.35	.39	3.09	20.40	1.11
Rhett Middle								
Total Affective	--[a]	3.55	6.35	2.22	--[b]	--[b]	--[b]	--[b]
Total Academic	--[a]	1.60	7.25	.67	--[b]	--[b]	--[b]	--[b]
Total Career	--[a]	.00	.00	.00	--[b]	--[b]	--[b]	--[b]
Total Contacts	.68	5.36	13.67	2.85	--[b]	--[b]	--[b]	--[b]
Rivers Middle								
Total Affective	--[a]	2.20	4.26	2.13	.21	1.11	6.02	.33
Total Academic	--[a]	.79	2.54	.71	.22	3.02	26.81	.21
Total Career	--[a]	.00	.00	.00	.00	.00	.03	.00
Total Contacts	.65	2.95	6.73	2.84	.31	4.14	32.86	.54
Haut Gap Middle								
Total Affective	--[a]	.80	1.89	.09	.17	.82	6.44	.00
Total Academic	--[a]	.60	2.05	.00	.12	1.35	12.10	.00
Total Career	--[a]	.00	.00	.00	.00	.00	.00	.00
Total Contacts	.38	1.35	3.81	.09	.20	2.17	18.54	.00
Burke Jr. High								
Total Affective	--[a]	.94	1.60	.39	.08	.66	3.59	.45
Total Academic	--[a]	.74	2.53	.32	.14	.48	3.93	.21
Total Career	--[a]	.11	.04	.12	.06	.08	.04	.03
Total Contacts	.46	1.82	3.88	.79	.22	1.22	7.56	.69
Burke Sr. High								
Total Affective	--[a]	1.04	2.17	1.26	.03	.96	4.39	.61
Total Academic	--[a]	.92	5.46	1.23	.29	1.69	12.12	.67
Total Career	--[a]	.02	.00	.00	.02	.04	.00	.00
Total Contacts	.53	2.20	7.22	2.42	.32	2.69	16.52	1.28
St. John's High								
Total Affective	--[a]	1.70	2.24	1.49	.52	3.36	7.83	2.47
Total Academic	--[a]	.85	3.97	.33	.26	.76	3.55	.18
Total Career	--[a]	.11	.10	.05	.04	.08	.08	.02
Total Contacts	.77	2.73	6.34	2.04	.62	4.20	11.46	2.67

Note. Affective contacts include contacts for Student Leadership Team activities, group counseling sessions, field trips, extracurricular activities, group counseling sessions, and youth conferences. Academic contacts include contacts for tutoring, study-skills sessions, test-taking skill sessions and sessions during which specialists monitored the progress of students and diagnosed educational and affective needs. Career contacts include contacts for the career orientation programs and job-seeking skills sessions. School sizes range from 446 to 548 for the middle schools and from 659 to 1116 for the high schools.

[a]Not calculated in parallel form for 1981-1982.

[b]Rhett Middle School was dropped from the program in Fall, 1982.

Table 6

Implementation Ratings for Each PATHE Intervention--81-82

Middle	Courtenay Middle	Rhett Middle	Rivers Middle	Haut Gap Middle	All Middle	Brown High	Burke High	St. Johns High	All High	All Schools
Team Average	1.7	2.7	1.9	2.2	2.1	2.4	3.3	2.9	2.9	2.4
Student Leadership	3.0	3.5	3.5	3.0	3.2	4.0	4.0	3.5	3.8	3.5
Student Concerns Support	1.5	3.5	2.0	2.5	2.4	2.0	2.0	3.5	2.5	2.4
Curriculum Support	1.5	3.5	2.0	2.5	2.4	2.0	3.0	3.0	2.7	2.5
Business-Education Partnership	0.0	0.5	0.0	0.0	0.1	1.0	4.0	2.0	2.3	1.1
Parent Leadership	2.5	2.5	2.0	3.0	2.5	3.0	3.5	2.5	3.0	2.7
Affective Average	2.8	2.3	2.6	1.9	2.4	2.2	3.2	2.2	2.6	2.5
Counseling	3.5	2.5	2.5	1.5	2.5	1.5	3.0	2.5	2.3	2.4
School Pride Campaign	3.5	0.0	3.5	2.0	2.2	3.5	3.5	2.5	3.2	2.6
Field Trips	2.5	2.5	2.0	3.0	2.5	3.5	3.0	3.0	3.2	2.8
Discipline Review & Revision	3.0	3.0	3.0	2.0	2.8	2.0	3.0	3.0	2.7	2.7
Peer Counseling	2.0	2.0	0.5	1.5	1.5	0.0	3.5	2.5	2.0	1.7
Extra-curricular Activities	2.0	4.0	4.0	1.5	2.9	3.0	3.5	0.0	2.2	2.6
Academic Average	2.8	3.0	1.5	2.8	2.5	2.7	3.6	2.7	3.0	2.7
Tutoring	1.5	3.0	2.5	0.5	1.9	2.5	3.5	2.0	2.7	2.2
Study Skills	3.5	3.5	1.5	2.5	2.8	2.5	4.0	2.0	2.8	2.8
Resource Room	1.5	2.5	2.5	3.0	2.4	2.0	3.5	2.5	2.7	2.5
Curriculum Review & Revision	3.5	4.0	2.0	4.0	3.4	4.0	4.0	3.5	3.8	3.6
Reading Experience Program	3.5	2.5	0.5	3.5	2.5	2.5	3.0	3.5	3.0	2.7
Exploratory	3.0	2.5	0.0	3.0	2.1	--[a]	--[a]	--[a]	--[a]	2.1
Career Average	2.0	0.0	0.0	3.0	1.2	2.8	3.0	3.0	2.9	2.0
Job-Seeking Skills	2.0	0.0	0.0	3.0	1.2	3.0	3.5	3.0	3.2	2.0
Career Exploration Programs	--[b]	--[b]	--[b]	--[b]	--[b]	2.5	2.5	3.0	2.7	2.1
Other Average	1.8	1.0	1.0	2.0	1.4	2.5	2.5	1.8	2.2	1.8
Services to Target Students	1.5	1.0	1.0	1.5	1.2	1.5	1.5	1.5	1.5	1.4
Faculty Inservices	2.0	1.0	1.0	2.5	1.6	3.5	3.5	2.0	3.0	2.2
Total Implementation Average	2.4	2.4	1.8	2.3	2.2	2.5	3.2	2.6	2.8	2.4

Note. The following rating scale was used:
4=exceeds standards
3=meets standards completely
2=meets 50-99% of standards
1=meets 1-49% of standards
0=does not meet standards/not implemented

[a]This intervention was not implemented in the high schools.

[b]This intervention was not implemented in the midddle schools.

Table 7

Implementation Ratings for Each PATHE Intervention--82-83

	Courtenay Middle	Rivers Middle	Haut Gap Middle	All Middle	Burke Jr.	Burke Sr.	St. Johns High	All High	All Schools
Organizational Structure Total	2.2	3.0	3.5	2.9	3.3	3.3	3.4	3.3	3.1
Curriculum Review and Revision	3.0	2.5	4.5	3.3	3.5	3.5	4.0	3.7	3.5
Discipline Review and Revision	1.5	3.5	2.0	2.3	2.0	3.0	2.0	2.3	2.3
Teams	2.0	3.0	4.0	3.0	4.0	3.0	3.5	3.5	3.2
Business-Education Partnership	--[a]	--[a]	--[a]	--[a]	4.5	4.5	4.5	4.5	4.5
Faculty-Administration Team Building	--[a]	--[a]	--[a]	--[a]	2.5	2.5	3.0	2.7	2.7
Academic Total	3.0	2.7	2.8	2.8	2.8	3.0	2.6	2.8	2.8
Study Skills	3.5	4.5	3.0[b]	4.0	4.5	5.0	3.5	4.3	4.2
Reading Experience	5.0	3.0	4.5	4.2	4.5	4.5	5.0	4.7	4.4
Test-Taking	1.5	1.5	2.5	1.8	1.5	2.0	1.0	1.5	1.7
Field Trips	4.0	3.5	2.0	3.2	3.5	2.5	3.0	3.0	3.1
Student Team Learning	1.0	1.0	2.0	1.3	0.0	1.0	0.5	0.5	0.9
Affective Total	1.5	3.5	4.0	3.0	1.8	2.5	2.5	2.2	2.6
Student Involvement	1.5	3.5	4.0	3.0	1.5	2.0	1.0	1.5	2.2
Group Counseling	--[a]	--[a]	--[a]	--[a]	2.0	3.0	4.0	3.0	3.0
Career Total	--[a]	--[a]	--[a]	--[a]	1.3	1.3	1.5	1.3	1.3
Career Exploration	--[a]	--[a]	--[a]	--[a]	1.0	1.0	0.5	0.8	0.8
Job-Seeking Skills	--[a]	--[a]	--[a]	--[a]	1.5	1.5	2.5	1.8	1.8
Services to Target Students	3.5	4.0	3.0	3.5	3.5	3.0	3.5	3.3	3.4
Total	2.6	3.0	3.3	3.0	2.7	2.8	2.8	2.7	2.9

Note. The following rating scale was used:

5=100% of benchmarks completed
4=75-99% of benchmarks completed
3=50-74% of benchmarks completed
2=25-49% of benchmarks completed
1=1-24% of benchmarks completed
0=program not attempted or no progress toward benchmark

See Figure 2 for a breakdown of which subcomponents are included in each category.

[a]This component was not a part of the middle school program design for 82-83.

[b]Records for this component were not kept, but the on-site evaluator is certain that the component was well-implemented. An average score was assumed.

Table 8

Teacher Perceptions of PATHE--1981, 1982, and 1983

	Courtenay Middle			Rhett Middles		Rivers Middle			Haut Gap Middle		
	1981	1982	1983	1981	1982	1981	1982	1983	1981	1982	1983
Percent responding "Strongly Agree" to											
-"The Curriculum Specialist works very hard."	65.2	63.6	76.5	19.0	13.6	23.3	34.3	56.0	44.0	76.5	84.6
-"The Student Concerns specialist works very hard."	65.2	81.0	--[c]	9.5	9.1	38.7	45.7	--[c]	36.0	35.3	--[c]
Percent agree that											
-"Most of the faculty members at this school are willing to support the PATHE program."	87.5	100.0	94.2	43.5	66.7	84.9	77.7	86.6	61.6	77.8	76.9
-"The principal at this school is 100% behind the PATHE program."	95.8	100.0	100.0	72.7	66.7	74.2	77.7	96.6	68.6	77.8	100.0
Percent believe that PATHE has a positive effect on											
-discipline problems	95.8	95.6	94.1	54.6	61.9	87.5	77.1	90.0	73.9	66.7	92.3
-parental involvement	--	90.0	100.0	--	71.4	--	81.9	89.6	--	94.7	92.3
-teamwork among faculty members	82.6	90.5	88.2	40.9	71.4	61.3	75.0	89.7	34.8	84.2	84.7
-student participation in school activities	--	--	100.0	--	--	--	--	93.1	--	--	100.0
-academic achievement	--	--	100.0	--	--	--	--	88.8	--	--	100.0
Number of teachers responding to survey	25	23	26	25	22	33	35	33	28	19	22

[a]PATHE program was discontinued in Fall, 1983.

[b]PATHE teacher survey was not administered in Spring, 1983.

[c]Student Concerns Specialist was dropped due to budget cutbacks.

Table 8 (cont.)

Teacher Perceptions of PATHE--1981, 1982, and 1983

	Burke Junior		Burke Senior			St. Johns High	
	1981	1982	1981	1982	1983	1981	1982
Percent responding "Strongly Agree" to							
-"The Curriculum Specialist works very hard."	48.6	56.0	64.7	76.1	52.5	23.8	35.7
-"The Student Concerns specialist works very hard."	28.6	22.2	64.7	76.1	47.5	19.0	35.7
Percent agree that							
-"Most of the faculty members at this school are willing to support the PATHE program."	83.8	88.4	92.0	97.8	92.1	40.9	64.3
-"The principal at this school is 100% behind the PATHE program."	88.9	88.4	96.4	97.8	97.4	71.4	64.3
Percent believe that PATHE has a positive effect on							
-discipline problems	83.3	85.7	100.0	97.9	92.5	72.7	80.0
-parental involvement	--	84.6	--	93.5	89.7	--	86.6
-teamwork among faculty members	61.8	92.8	75.0	93.6	79.5	5.6	80.0
-student participation in school activities	--	--	--	--	94.7	--	--
-academic achievement	--	--	--	--	92.3	--	--
Number of teachers responding to survey	40	33	55	49	45	23	32

[a]PATHE program was discontinued in Fall, 1983.

[b]PATHE teacher survey was not administered in Spring, 1983.

[c]Student Concerns Specialist was dropped due to budget cutbacks.

Table 9

Teacher Reports of Involvement in PATHE Activities

	Courtenay Middle	Rhett Middle	Rivers Middle	Haut Gap Middle	Burke Jr.	Burke Sr.	St. Johns High
				1980-81			
Percent responding "yes" to During the 1980-81 school year have you . . .							
-used instructional materials provided by the PATHE curriculum specialist?	76.2	47.8	60.0	73.1	52.8	80.0	47.6
-consulted one of the PATHE specialists for assistance in your teaching or other work responsibilities?	85.7	52.2	67.7	61.5	71.4	76.5	55.0
-checked out materials from the PATHE resource room?	63.6	31.8	30.0	69.2	20.6	62.7	19.0
-participated in a school-wide activity sponsored by PATHE?	87.5	63.6	81.3	88.5	77.1	90.2	81.0
-been a member of a PATHE support team?	40.9	40.9	38.7	40.0	40.0	47.1	23.8
Number of teachers responding to 80-81 survey	25	25	33	28	40	55	23
				1981-82			
Average number of teacher's students for whom the curriculum specialist helped with an individualized learning plan	1.4	1.3	5.8	5.6	1.7	2.3	.6
Percent responding "most of the time" or "often" to							
How often do you use the prescriptions suggested by the curriculum specialist?	68.8	35.7	75.0	43.8	64.2	67.8	72.7
How often do you use the disciplinary referral forms provided by PATHE?	72.8	30.0	44.4	0.0	25.0	54.5	27.2
Are you usually informed of the outcome of the disciplinary incident?	90.9	35.2	65.4	63.7	76.3	100.0	64.7
Number of teachers responding to 81-82 survey	23	22	35	19	33	49	32

Table 9 (cont.)

	Courtenay Middle	Rhett Middle	Rivers Middle	Haut Gap Middle	Burke Jr.	Burke Sr.	St. Johns High
				1982-83			
Percent responding "continually" or "often" to							
During the 82-83 school year, about how frequently did you do each of the following things?							
Participate in planning for school improvement	64.7	--a	67.7	69.2	--b	56.1	--b
Help to implement a school improvement endeavor	70.6	--a	58.1	61.6	--b	42.1	--b
Percent responding "most of the time or "often" to							
During the 82-83 school year how often did a PATHE specialist help you with new teaching methods or materials?	36.8	--a	42.9	76.9	--b	29.7	--b
Do you feel that the PATHE inservices given during the 82-83 school year addressed real school needs?	87.5	--a	88.9	100.0	--b	82.9	--b
Number of teachers responding to 82-83 survey	26	--a	33	22	--b	45	--b
				All years			
Percentage of teachers attending at least one PATHE-sponsored inservice							
1980-81	91.7	88.0	78.1	92.6	80.6	96.2	72.7
1981-82	85.7	81.0	86.2	91.7	88.8	97.2	89.3
1982-83	88.0	--a	78.0	64.0	--b	70.0	--b
Average number of teacher's students referred to							
The Student Concerns Specialist							
1980-81	9.3	11.2	2.2	2.0	3.0	8.6	4.6
1981-82	11.5	4.1	8.8	2.3	3.2	9.5	4.2
The Curriculum Specialist							
1980-81	3.4	1.6	1.5	2.1	2.4	2.4	5.9
1981-82	4.6	1.5	6.2	1.2	3.8	4.9	2.9
1982-83	3.5	--a	1.7	3.1	--b	9.4	--b

[a]PATHE program was discontinued in Fall, 1983.

[b]PATHE teacher survey was not administered in Spring, 1983.

Table 10

Rates of Suspension, Retention, Attendance and Withdrawal from School, 1979-1983

	Number of Suspensions/ Total Enrollment				Number of Retentions/ Total Enrollment			Average Daily Attendance/ Average Daily Membership				Number of Withdrawals/ Total Enrollment			
	79-80	80-81	81-82	82-83	80-81	81-82	82-83	79-80	80-81	81-82	82-83	79-80	80-81	81-82	82-83
Courtenay M.S.	.26	.13	.08	.08	.03	.08	.12	.93	.93	.94	.95	.03	.01	.01	.02
Rhett M.S.b	.15	.09	.10	.28	.07	.13	.11	.93	.95	.94	.95	.03	.01	.01	.00
Rivers M.S.	.11	.18	.25	.18	.21	.25	.26	.94	.94	.94	.94	.02	.02	.03	.01
Haut Gap M.S.	.04	.10	.20	.10	.12	.06	.12	.93	.93	.93	.94	.01	.01	.01	.00
Laing M.S.d	.08	.13	.15	.19	.14	.17	.16	.93	.94	.94	.95	.02	.01	.02	.00
Brown H.S.	.46	.66	.32	--a	--c	--c	--c	.89	.90	.91	--a	.14	.10	.14	--a
Burke H.S.	.09	.18	.14	.20a	--c	--c	--c	.90	.91	.92	.94a	.11	.10	.10	.10a
St. Johns H.S.	.49	.90	.87	.83	--c	--c	--c	.93	.91	.92	.92	.10	.09	.10	.08
Charleston H.S.d	.24	.34	.48	--a	--c	--c	--c	.92	.93	.94	--a	.11	.05	.07	--a

[a] Brown, Burke, and Charleston High Schools were consolidated in Fall, 1983.
[b] The PATHE program was discontinued in Rhett Middle School in Fall, 1982.
[c] These data are not systematically collected by the Charleston County School System for high school students.
[d] Control school

Table 11

California Test of Basic Skills for Grades 7, 8, and 10
PATHE and Comparison Schools, 1981 through 1983

School	Total Reading Score											
	1981				1982				1983			
	Scale score			% in bottom quartile	Scale score			% in bottom quartile	Scale score			% in bottom quartile
	M	SD	N		M	SD	N		M	SD	N	
Courtenay Middle	443.3 (672)	98.5	258	31.8	471.9 (696)	104.8	329	26.4	692.2	95.1	318	32.1
Rhett Middle	468.4 (693)	100.7	209	25.3	493.0 (709)	101.2	325	15.7	702.4	58.0	275	32.7
Rivers Middle	459.2 (687)	93.4	261	31.8	475.8 (698)	75.7	351	26.5	689.1	65.3	357	36.7
Haut Gap Middle	483.9 (703)	76.3	201	32.9	494.6 (710)	72.8	307	25.1	708.8	45.1	301	33.6
Laing Middle[b]	537.0 (735)	152.4	202	24.3	548.4 (741)	89.4	308	12.0	742.3	58.8	350	16.3
Brown High	488.5 (706)	74.0	142	43.0	501.8 (714)	76.4	165	38.2	--[c]	--[c]	--[c]	--[c]
Burke High	507.9 (717)	87.5	207	42.0	517.4 (721)	75.3	295	39.0	734.6[c]	73.6[c]	423[c]	35.5[c]
St. Johns High	506.6 (716)	93.5	199	33.2	536.4 (734)	96.1	186	23.1	722.2	66.1	163	28.8
Charleston High[b]	562.5 (749)	73.9	131	33.6	550.8 (742)	76.5	147	27.9	--[c]	--[c]	--[c]	--[c]

Note. Numbers in parentheses are the 1981 and 1982 test scores converted so that they are equivalent to the 1983 scores. Charleston County School District switched from form S to form U of the CTBS test in 1983.

[a]Percent scoring in the bottom national quartile, based on the National percentile rank.
[b]Comparison school
[c]Brown, Burke, and Charleston High Schools were consolidated in the fall of 1982. Changes in test scores are ambiguous.

Table 11 (cont.)

School	Total Math Score											
	1981				1982				1983			
	Scale score			% in bottom quartile	Scale score			% in bottom quartile	Scale score			% in bottom quartile
	M	SD	N		M	SD	N		M	SD	N	
Courtney Middle	501.1 (713)	223.6	255	31.8	459.6 (688)	71.0	328	23.5	709.1	77.7	318	36.2
Rhett Middle	470.0 (694)	100.8	210	27.6	471.6 (696)	76.5	325	24.3	707.3	20.0	275	21.8
Rivers Middle	448.3 (677)	58.9	263	35.7	457.2 (685)	63.1	351	31.6	700.8	48.8	357	38.6
Haut Gap Middle	461.5 (689)	64.7	202	28.2	472.3 (696)	76.5	307	25.1	706.1	18.6	301	29.6
Laing Middle	519.6 (723)	144.8	202	21.8	528.4 (729)	93.4	306	13.1	722.2	48.6	350	17.4
Brown High	484.2 (703)	69.9	141	44.7	495.8 (710)	73.6	165	40.0	--c	--c	--c	--c
Burke High	492.6 (709)	74.6	205	39.5	499.7 (713)	70.3	296	41.9	717.0c	45.6c	423c	29.1c
St. John's High	502.8 (714)	79.1	197	41.1	515.4 (720)	89.3	190	24.2	716.6	69.6	163	23.9
Charleston Highb	534.1 (733)	84.9	125	27.2	532.8 (732)	72.2	147	34.0	--c	--c	--c	--c

Note. Numbers in parentheses are the 1981 and 1982 test scores converted so that they are equivalent to the 1983 scores. Charleston County School District switched from form S to form U of the CTBS test in 1983.

[a]Percent scoring in the bottom national quartile, based on the National percentile rank.
[b]Comparison school
[c]Brown, Burke, and Charleston High Schools were consolidated in the fall of 1982. Changes in test scores are ambiguous.

Table 12

1981 to 1983 Difference Scores for School Averages on Survey Measures of PATHE Goals and Objectives--Laing M.S.

Goal or objective measure	1981 - 1983 diff	1981 - 1983 t	1982 - 1983 diff	1982 - 1983 t
Total Delinquency (-)	--	--	.03	1.92
Serious Delinquency (-)	--	--	.03	2.08
Drug Use (-)	--	--	.02	.82
Suspensions (-)	-.04	-1.35	-.01	-.42
Victimization (-)	.03	1.74	.03	1.76
School Nonattendance (-)	.02	.77	.01	.52
School Rewards (+)	-.05	-1.85	-.02	-.76
School Punishments (-)	.03	1.26	-.03	-1.19
Interpersonal Competency (+)	-.03	-1.40	-.01	-.58
Positive Self-concept (+)	.02	1.21	.00	-.18
Alienation (-)	-.01	-.31	.00	-.16
School Attachment (+)	-.04	-2.01	.01	.46
Educational Expectations (+)	.22	1.49	.12	.86
Belief (+)	.04	1.70	.00	.04
Low Expectationsa (-)	-11.39	-1.69	-.40	-.07
Involvement (+)	-.02	-.65	-.01	-.52
Victimizationa (-)	.01	.82	.01	.49
Safetya (+)	.04	.27	-.08	-.56
Teacher Moralea (+)	-.10	-1.79	-.10	-1.87
Planning and Actiona (+)	-.17	-2.56	-.10	-1.55
Smooth Administrationa (+)	-.06	-1.01	-.04	-.69
Rule Clarity (+)	-.01	-.12	.04	.78
Rule Fairness (+)	-.06	-1.13	-.02	-.46
Planning and Action (+)	-.09	-1.84	-.03	-.54
Safety (+)	.01	.25	-.01	-.51
Pct. measures improved		.36		.32

Note. Laing Middle School is a comparison school. The desired direction of change is indicated in parentheses after each scale name. t-statistics for compositional measures (Total Delinquency through Involvement) are based on the means and standard deviations for each school. For psychosocial climate measures, the "t-statistic" is the ratio of the difference between 1983 and the baseline (1981 or 1982) score to the standard error of measurement of the 1982 scores. t values of 1.96 and 2.54 are statistically significant at the $p<.05$ and $p<.01$ level, respectively. All measures are taken from the SAES student surveys unless otherwise indicated.

[a]Measure taken from SAES teacher survey.

Table 13

1981 to 1983 Difference Scores for
School Averages on Survey Measures of
PATHE Goals and Objectives--Courtenay M.S.

Goal or objective measure	1981 - 1983 diff	1981 - 1983 t	1982 - 1983 diff	1982 - 1983 t
Total Delinquency (-)	--	--	.00	.27
Serious Delinquency (-)	--	--	-.01	-.54
Drug Use (-)	--	--	.02	.89
Suspensions (-)	-.03	-.91	-.04	-1.13
Victimization (-)	-.03	-1.86	.00	-.31
School Nonattendance (-)	.02	.81	.00	-.02
School Rewards (+)	.04	1.55	.02	.89
School Punishments (-)	-.02	-.85	-.01	-.58
Interpersonal Competency (+)	.02	1.33	.00	.14
Positive Self-concept (+)	.02	1.42	.02	1.26
Alienation (-)	-.04	-1.70	-.03	-1.37
School Attachment (+)	.02	1.48	.02	1.42
Educational Expectations (+)	-.21	-1.47	-.15	-1.06
Belief (+)	.01	.52	.01	.66
Low Expectations[a] (-)	-3.07	-.49	1.10	.18
Involvement (+)	-.05	-1.17	-.04	-1.25
Victimizations[a] (-)	-.02	-.91	-.04	-2.45
Safety[a] (+)	.18	1.19	-.16	-1.09
Teacher Morale[a] (+)	.04	.80	-.02	-.46
Planning and Action[a] (+)	-.05	-.73	-.03	-.49
Smooth Administration[a] (+)	-.03	-.51	-.01	-.17
Rule Clarity (+)	.01	.12	.01	.22
Rule Fairness (+)	.04	.68	.05	.90
Planning and Action (+)	.06	1.18	.07	1.52
Safety (+)	.05	1.96	.01	.52
Pct. measures improved		.77		.64

Note. The desired direction of change is indicated in parentheses after each scale name. *t*-statistics for compositional measures (Total Delinquency through Involvement) are based on the means and standard deviations for each school. For psychosocial climate measures, the "*t*-statistic" is the ratio of the difference between 1983 and the baseline (1981 or 1982) score to the standard error of measurement of the 1982 scores. *t* values of 1.96 and 2.54 are statistically significant at the $p<.05$ and $p<.01$ level, respectively. All measures are taken from the SAES student surveys unless otherwise indicated.

[a] Measure taken from SAES teacher survey.

Table 14

1981 to 1983 Difference Scores for School Averages on Survey Measures of PATHE Goals and Objectives--Rhett M.S.

Goal or objective measure	1981 - 1983 diff	1981 - 1983 t	1982 - 1983 diff	1982 - 1983 t
Total Delinquency (-)	--	--	-.01	-.76
Serious Delinquency (-)	--	--	-.02	-1.45
Drug Use (-)	--	--	-.02	-1.10
Suspensions (-)	-.04	-1.17	.04	1.41
Victimization (-)	-.01	-.40	.01	.45
School Nonattendance (-)	-.02	-.81	-.05	-1.24
School Rewards (+)	-.03	-1.13	-.05	-1.81
School Punishments (-)	.11	4.28	.08	3.66
Interpersonal Competency (+)	.05	2.42	.00	-.07
Positive Self-concept (+)	.01	.81	.00	-.21
Alienation (-)	-.07	-2.58	.01	.29
School Attachment (+)	.01	.38	-.01	-.80
Educational Expectations (+)	-.09	-3.60	-.10	-.77
Belief (+)	.00	.06	-.03	-1.32
Low Expectations[a] (-)	-2.95	-.37	-3.25	-.45
Involvement (+)	-.03	-.90	-.04	-.86
Victimization[a] (-)	-.03	-1.68	-.03	-1.76
Safety[a] (+)	.86	5.82	.54	3.65
Teacher Morale[a] (+)	.14	2.63	.05	.96
Planning and Action[a] (+)	.13	1.93	.07	1.06
Smooth Administration[a] (+)	.07	1.21	.17	2.88
Rule Clarity (+)	.07	1.46	.06	1.23
Rule Fairness (+)	.05	.92	.03	.55
Planning and Action (+)	-.02	-.44	.03	.57
Safety (+)	.02	.90	.00	-.11
Pct. measures improved		.77		.52

Note. Rhett Middle School received PATHE services between September, 1980 and May, 1982. The desired direction of change is indicated in parentheses after each scale name. t-statistics for compositional measures (Total Delinquency through Involvement) are based on the means and standard deviations for each school. For psychosocial climate measures, the "t-statistic" is the ratio of the difference between 1983 and the baseline (1981 or 1982) score to the standard error of measurement of the 1982 scores. t values of 1.96 and 2.54 are statistically significant at the $p<.05$ and $p<.01$ level, respectively. All measures are taken from the SAES student surveys unless otherwise indicated.

[a] Measure taken from SAES teacher survey.

Table 15

1981 to 1983 Difference Scores for School Averages on Survey Measures of PATHE Goals and Objectives--Rivers M.S.

Goal or objective measure	1981 - 1983 diff	1981 - 1983 t	1982 - 1983 diff	1982 - 1983 t
Total Delinquency (-)	--	--	-.03	-2.08
Serious Delinquency (-)	--	--	-.01	-1.20
Drug Use (-)	--	--	-.05	-2.34
Suspensions (-)	-.06	-1.55	-.07	-1.96
Victimization (-)	-.03	-1.74	-.01	-.43
School Nonattendance (-)	.04	1.73	.04	1.20
School Rewards (+)	-.06	-2.14	-.03	-1.26
School Punishments (-)	-.01	-.49	-.03	-1.29
Interpersonal Competency (+)	.00	.10	-.02	-1.07
Positive Self-concept (+)	.02	1.08	-.01	-.73
Alienation (-)	-.02	-.74	.01	.48
School Attachment (+)	.05	2.35	.04	2.16
Educational Expectations (+)	-.03	-.18	.11	.80
Belief (+)	.05	2.11	.02	.91
Low Expectationsa (-)	5.95	1.22	5.05	.91
Involvement (+)	.00	-.09	.01	.24
Victimizationa (-)	-.05	-2.66	-.02	-1.17
Safetya (+)	-.16	-1.10	-.13	-.91
Teacher Moralea (+)	-.04	-.79	-.10	-1.81
Planning and Actiona (+)	.06	.90	-.04	-.53
Smooth Administrationa (+)	-.01	-.19	-.07	-1.21
Rule Clarity (+)	.06	1.25	.04	.75
Rule Fairness (+)	.08	1.62	.08	1.59
Planning and Action (+)	.07	1.37	.03	.64
Safety (+)	.04	1.62	.00	-.08
Pct. measures improved		.64		.56

Note. The desired direction of change is indicated in parentheses after each scale name. t-statistics for compositional measures (Total Delinquency through Involvement) are based on the means and standard deviations for each school. For psychosocial climate measures, the "t-statistic" is the ratio of the difference between 1983 and the baseline (1981 or 1982) score to the standard error of measurement of the 1982 scores. t values of 1.96 and 2.54 are statistically significant at the $p<.05$ and $p<.01$ level, respectively. All measures are taken from the SAES student surveys unless otherwise indicated.

[a] Measure taken from SAES teacher survey.

Table 16

1981 to 1983 Difference Scores for
School Averages on Survey Measures of
PATHE Goals and Objectives--Haut Gap M.S.

	1981 - 1983		1982 - 1983	
Goal or objective measure	diff	t	diff	t
Total Delinquency (-)	--	--	-.01	-.58
Serious Delinquency (-)	--	--	.00	-.40
Drug Use (-)	--	--	-.01	-.59
Suspensions (-)	-.04	-1.32	-.03	-1.14
Victimization (-)	.03	1.66	.00	.08
School Nonattendance (-)	-.02	-.69	.02	.61
School Rewards (+)	.04	1.47	.02	.81
School Punishments (-)	.01	.51	.03	1.38
Interpersonal Competency (+)	.00	.19	-.02	-1.16
Positive Self-concept (+)	.04	2.29	.00	.05
Alienation (-)	-.08	-3.08	-.04	-1.39
School Attachment (+)	.07	3.47	.03	1.54
Educational Expectations (+)	.37	2.41	.08	.51
Belief (+)	.06	2.98	.01	.69
Low Expectationsa (-)	-3.62	-.64	1.89	.31
Involvement (+)	-.03	-.89	-.04	-1.00
Victimizationa (-)	-.01	-.36	.00	.11
Safetya (+)	.15	1.03	.08	.54
Teacher Moralea (+)	.13	2.37	-.02	-.41
Planning and Actiona (+)	.11	1.70	.04	.53
Smooth Administrationa (+)	.11	1.88	-.03	-.58
Rule Clarity (+)	.05	1.03	.03	.56
Rule Fairness (+)	.04	.74	.04	.84
Planning and Action (+)	.05	1.02	.04	.92
Safety (+)	.02	.90	.02	.84
Pct. measures improved		.86		.64

Note. The desired direction of change is indicated in parentheses after each scale name. t-statistics for compositional measures (Total Delinquency through Involvement) are based on the means and standard deviations for each school. For psychosocial climate measures, the "t-statistic" is the ratio of the difference between 1983 and the baseline (1981 or 1982) score to the standard error of measurement of the 1982 scores. t values of 1.96 and 2.54 are statistically significant at the $p<.05$ and $p<.01$ level, respectively. All measures are taken from the SAES student surveys unless otherwise indicated.

[a] Measure taken from SAES teacher survey.

Table 17

1981 to 1983 Difference Scores for
School Averages on Survey Measures of
PATHE Goals and Objectives--St. John's H.S.

Goal or objective measure	1981 - 1983 diff	1981 - 1983 t	1982 - 1983 diff	1982 - 1983 t
Total Delinquency (-)	-.03	-2.74	-.01	-1.08
Serious Delinquency (-)	-.02	-1.54	-.01	-1.10
Drug Use (-)	-.06	-2.41	-.01	-.30
Suspensions (-)	-.07	-1.70	-.05	-1.50
Victimization (-)	.00	.04	.01	1.32
School Nonattendance (-)	.00	.11	.06	1.85
School Rewards (+)	.00	.09	.00	-.21
School Punishments (-)	-.03	-1.26	-.01	-.84
Interpersonal Competency (+)	-.02	-1.20	-.02	-1.26
Positive Self-concept (+)	.02	1.27	.01	.87
Alienation (-)	-.05	-1.80	-.03	-1.38
School Attachment (+)	.02	.84	.03	1.96
Educational Expectations (+)	.12	.77	.06	.51
Belief (+)	.03	1.61	.01	.45
Low Expectationsa (-)	-10.36	-1.90	-2.13	-.51
Involvement (+)	-.06	-1.18	-.04	-1.13
Victimizationa (-)	.03	1.59	.00	.09
Safetya (+)	.27	1.82	.23	1.53
Teacher Moralea (+)	.17	3.13	.05	1.01
Planning and Actiona (+)	.06	.87	.04	.66
Smooth Administrationa (+)	.03	.48	-.01	-.20
Rule Clarity (+)	.00	-.02	.00	.07
Rule Fairness (+)	.00	.09	.01	.24
Planning and Action (+)	.00	.00	.03	.73
Safety (+)	.01	.22	.05	1.71
Pct. measures improved		.72		.72

Note. The desired direction of change is indicated in parentheses after each scale name. t-statistics for compositional measures (Total Delinquency through Involvement) are based on the means and standard deviations for each school. For psychosocial climate measures, the "t-statistic" is the ratio of the difference between 1983 and the baseline (1981 or 1982) score to the standard error of measurement of the 1982 scores. t values of 1.96 and 2.54 are statistically significant at the $p<.05$ and $p<.01$ level, respectively. All measures are taken from the SAES student surveys unless otherwise indicated.

[a] Measure taken from SAES teacher survey.

Table 18

Means and Standard Deviations for PATHE Target and Control Groups on Self-Reported Measures of Delinquency, Nonattendance, and Grades

School and Group	Delinquency									Nonattendance			Grades		
	Total			Serious			Drug Use								
	M	SD	N	M	SD	N	M	SD	N	M	SD	N	M	SD	N
Courtenay															
Target	.16	.20	40	.10	.19	40	.23	.29	41	.28	.34	49	2.55	.84	49
Control	.12	.14	36	.09	.15	36	.13	.22	38	.17	.33	56	2.57	.80	56
Rivers															
Target	.10	.11	38	.06	.10	38	.13	.21	41	.16	.34	49	2.33	.62	49
Control	.08	.13	30	.07	.15	30	.09	.17	30	.24	.36	33	2.25	.80	32
Haut Gap															
Target	.10	.15	40	.06	.12	40	.16	.26	40	.14	.30	48	2.30*	.54	50
Control	.10	.17	11	.05	.16	11	.16	.23	12	.11	.29	14	1.87	.83	15
Burke Jr.															
Target	.16	.18	50	.09	.15	50	.32**	.35	51	.48	.42	63	2.34	.72	64
Control	.11	.17	56	.07	.17	57	.18	.27	59	.45	.42	69	2.19	.58	69
Burke Sr.															
Target	.14	.15	69	.06	.12	69	.34	.32	68	.51*	.38	75	2.27	.50	77
Control	.15	.16	53	.08	.14	54	.31	.29	53	.67	.40	57	2.30	.50	60
St. John's															
Target	.11	.14	59	.05	.14	59	.23	.27	60	.34	.38	67	2.40	.62	69
Control	.11	.14	61	.06	.13	61	.19	.27	61	.30	.36	74	2.32	.60	74
All schools															
Target	.13	.16	296	.07	.14	296	.25*	.30	301	.34	.39	351	2.36	.64	358
Control	.12	.15	247	.07	.15	249	.19	.26	253	.36	.41	303	2.30	.67	306

Table 19

Means and Standard Deviations for PATHE Target and Control Groups on All Other Self-Report Measures

School and Group	Interpersonal Competency			Positive Self-Concept			Attachment to: Parents			Attachment to: School			Educational Expectations			School Effort		
	M	SD	N	M	SD	N	M	SD	N	M	SD	N	M	SD	N	M	SD	N
Courtenay																		
Target	.73	.27	40	.74	.18	37	.66	.24	45	.77	.21	42	2.49	1.67	47	.56	.28	43
Control	.76	.25	44	.75	.18	44	.70	.25	54	.80	.19	49	2.87	1.76	55	.65	.25	50
Rivers																		
Target	.81	.19	32	.75	.17	31	.63	.28	46	.68	.27	41	2.61	1.80	49	.63	.27	47
Control	.77	.20	15	.70	.17	15	.66	.26	31	.69	.24	26	2.55	1.84	31	.63	.28	30
Haut Gap																		
Target	.80	.20	35	.72	.18	35	.70	.26	47	.69	.27	39	2.42	1.78	47	.62	.29	45
Control	.70	.20	12	.71	.11	11	.70	.22	14	.68	.21	13	2.67	1.68	15	.55	.31	14
Burke Jr.																		
Target	.80	.17	53	.78	.17	53	.65	.29	61	.64	.24	63	1.94	1.46	62	.55	.30	61
Control	.83	.17	50	.76	.15	45	.59	.23	66	.69	.23	60	2.26	1.58	69	.61	.25	68
Burke Sr.																		
Target	.85	.20	60	.81	.15	61	.59	.28	75	.74	.21	68	2.35	1.53	74	.66	.28	74
Control	.77	.26	47	.79	.18	47	.61	.24	58	.72	.24	50	2.36	1.48	59	.65	.26	56
St. Johns																		
Target	.80	.20	61	.77	.16	58	.60	.29	66	.70	.23	61	2.57	1.68	67	.65	.26	65
Control	.82	.25	64	.76	.16	62	.63	.26	71	.71	.22	69	2.15	1.57	74	.59	.26	69
All schools																		
Target	.80	.21	281	.77	.17	275	.63	.28	340	.70	.24	314	2.38	1.64	346	.62	.28	335
Control	.79	.23	232	.76	.17	224	.64	.25	294	.72	.22	267	2.41	1.63	303	.62	.26	287

Table 19 (Cont.)

School and Group	Belief in Rules			Negative Peer Influence			Alienation			Victimization			Work Index			Rebellious Autonomy		
	M	SD	N	M	SD	N	M	SD	N	M	SD	N	M	SD	N	M	SD	N
Courtenay																		
Target	.66	.25	39	.22	.20	39	.36	.23	39	.19	.22	40	.39	.36	47	.54	.35	39
Control	.60	.25	46	.23	.19	52	.32	.22	43	.15	.20	48	.42	.36	54	.64	.30	46
Rivers																		
Target	.66	.25	33	.24	.24	46	.39	.24	33	.19	.22	39	.38	.42	48	.64	.28	30
Control	.63	.22	15	.20	.17	32	.40	.20	15	.12	.18	27	.36	.38	32	.67	.22	15
Haut Gap																		
Target	.63	.24	35	.15	.17	44	.36	.32	34	.15	.20	41	.45	.41	47	.59	.36	34
Control	.69	.22	12	.21	.21	13	.45	.25	12	.15	.17	13	.25	.32	14	.50	.30	12
Burke Jr.																		
Target	.62	.24	53	.27	.24	62	.43	.25	53	.16	.22	61	.29	.35	61	.61	.30	52
Control	.70	.23	52	.21	.22	67	.44	.24	50	.12	.17	59	.36	.39	68	.60	.30	49
Burke Sr.																		
Target	.71	.20	58	.19	.18	74	.28	.20	58	.09	.17	69	.46	.44	73	.61	.32	57
Control	.76	.21	48	.17	.16	57	.26	.21	48	.11	.20	51	.49	.43	58	.53	.39	45
St. Johns																		
Target	.69	.23	60	.20	.18	64	.44	.29	59	.12	.17	62	.38	.42	67	.58	.34	57
Control	.66	.24	67	.20	.19	70	.40	.25	65	.10	.20	72	.45	.40	70	.56	.33	62
All schools																		
Target	.67	.23	278	.21	.20	329	.38	.26	276	.14	.20	312	.39	.40	343	.59	.32	269
Control	.67	.24	240	.20	.19	291	.37	.24	233	.12	.19	270	.41	.40	296	.58	.33	229

Table 19 (Cont.)

School and Group	Involvement in Ex-curric. Activ.			Practical Knowledge			Parental Emphasis on Education			School Punishments			School Rewards			External Control		
	M	SD	N	M	SD	N	M	SD	N	M	SD	N	M	SD	N	M	SD	N
Courtenay																		
Target	.33	.21	40	1.19	.38	39	.55	.30	42	.34	.30	40	.40	.36	42	.51	.25	39
Control	.27	.20	47	1.19	.42	44	.56	.28	48	.30	.26	50	.37	.30	50	.58	.24	46
Rivers																		
Target	.26	.24	45	1.26	.40	35	.61	.28	36	.29	.26	42	.36	.33	42	.53	.20	34
Control	.20	.20	32	1.23	.45	14	.52	.26	15	.36	.26	25	.26	.24	26	.57	.15	14
Haut Gap																		
Target	.23	.17	44	1.29	.38	38	.57	.27	37	.27	.27	40	.30	.33	40	.52	.23	33
Control	.22	.21	10	1.44	.31	12	.52	.26	13	.17	.21	13	.21	.22	13	.62	.16	11
Burke Jr.																		
Target	.22	.21	59	1.43	.30	55	.50	.31	58	.33	.29	60	.25	.28	60	.59	.26	54
Control	.19	.17	63	1.32	.45	54	.46	.30	55	.26	.27	63	.22	.27	63	.52	.25	52
Burke Sr.																		
Target	.17	.17	70	1.54	.39	60	.45	.29	67	.20	.24	69	.19	.27	67	.52	.24	59
Control	.20	.16	55	1.53	.43	48	.46	.25	49	.28	.27	53	.24	.27	53	.49	.28	47
St. Johns																		
Target	.25	.20	60	1.46	.34	60	.37	.27	61	.20	.27	63	.24	.27	64	.53	.24	58
Control	.30	.24	68	1.40	.47	67	.43	.28	65	.17	.26	71	.29	.30	70	.58	.25	64
All schools																		
Target	.24	.20	318	1.39	.38	287	.49	.30	301	.27	.27	314	.28	.31	315	.54	.24	277
Control	.24	.20	275	1.36	.45	239	.48	.28	245	.26	.27	275	.27	.28	275	.55	.25	234

Table 20a

Means and Standard Deviations for PATHE Target and Control Groups on Spring '83 California Test of Basic Skills

	Standard scores												Percent scoring in the bottom quartile											
	Reading			Math			Language			Total			Reading			Math			Language			Total		
	M	SD	N	M	SD	N	M	SD	N	M	SD	N	M	SD	N	M	SD	N	M	SD	N	M	SD	N
Courtenay																								
Target	644	53	51	688	21	52	633	42	51	656	34	50	.86	.34	52	.77	.42	52	.79	.41	52	.83	.38	52
Control	642	52	60	685	21	58	625	42	60	652	34	57	.92	.28	61	.80	.40	61	.85	.36	61	.88	.32	61
Rivers																								
Target	664	39	55	690	16	55	648	36	55	667	26	55	.76	.43	55	.74	.44	55	.73	.45	55	.78	.42	55
Control	664	41	38	688	13	36	655	31	37	670	23	36	.82	.39	38	.82	.39	38	.76	.43	38	.82	.39	38
Haut Gap																								
Target	672	45	49	691	19	49	664	33	49	676	28	49	.73	.45	49	.69	.46	49	.67**	.47	49	.78	.42	49
Control	658	56	15	692	22	15	674	40	15	681	26	14	.87	.35	15	.73	.46	15	.33	.49	15	.78	.42	14
Burke, Jr.																								
Target	701	38	71	698	21	74	671*	36	72	690	26	71	.90	.30	73	.86	.34	74	.84	.37	74	.88	.33	73
Control	693	39	74	697	17	74	658	36	74	683	24	74	.90	.29	74	.94	.23	74	.90	.29	74	.94	.23	74
Burke, Sr.																								
Target	713	43	76	708	19	77	682	43	76	701	32	75	.87	.34	76	.84	.36	77	.84	.37	76	.85	.36	75
Control	719	39	60	708	18	59	683	35	60	703	25	57	.90	.30	60	.85	.36	59	.87	.34	60	.93	.26	57
St. Johns																								
Target	712	42	65	707	24	63	676	44	64	698	32	63	.83	.38	65	.73	.44	64	.80	.40	64	.83	.38	64
Control	705	41	72	705	23	72	675	38	72	694	30	72	.86	.35	72	.72	.45	72	.88	.33	72	.86	.35	72
All Schools																								
Target	688	50	367	698	22	370	665	42	367	684	34	363	.84	.37	370	.78	.41	371	.79	.41	370	.83*	.38	368
Control	686	51	319	697	21	314	661	42	318	682	32	310	.88	.32	320	.82	.38	319	.84	.37	320	.89	.31	316

[a]Not applicable
[b]Data provided for ninth graders only
[c]Applicable only for non-seniors

*$p<.05$
**$p<.01$

Table 20b

Means and Standard Deviations for PATHE Target and Control Groups on Measures of Academic Achievement from School Records

	Percentage of students														
	Promoted to next grade						Graduated 1983			Received failing average (1982)			Grade average		
	1982			1983											
	M	SD	N	M	SD	N	M	SD	N	M	SD	N	M	SD	N
Courtenay															
Target	.88	.33	75	.86	.35	49	--a	--a	--a	.25	.44	51	72.4	4.19	51
Control	.77	.42	71	.80	.40	61	--a	--a	--a	.26	.44	61	72.6	4.47	61
Rivers															
Target	.77	.42	66	.41	.50	54	--a	--a	--a	.57	.50	53	68.2	6.80	53
Control	.67	.47	64	.40	.50	37	--a	--a	--a	.59	.50	37	67.7	6.52	37
Haut Gap															
Target	.72	.45	54	.76	.43	49	--a	--a	--a	.19	.39	48	72.1	3.00	48
Control	.65	.48	52	.72	.46	18	--a	--a	--a	.29	.47	17	72.4	5.53	17
Burke, Jr.															
Target	.60	.50	52	.49b	.50	47	--a	--a	--a	.67	.47	76	64.9	8.39	76
Control	.62	.49	45	.53	.50	45	--a	--a	--a	.67	.47	78	65.6	8.08	78
Burke, Sr.															
Target	.89	.31	55	.53c	.50	55	.72**	.46	25	.41	.50	82	69.5	6.73	82
Control	.86	.35	22	.42	.50	47	.32	.48	25	.46	.50	70	68.5	6.38	70
St. John's															
Target	.68	.47	56	.76c	.43	55	.81	.40	16	.35	.48	72	71.6	6.27	72
Control	.58	.50	55	.69	.46	65	.83	.41	6	.28	.45	77	71.2	6.75	77
All schools															
Target	.77*	.42	410	.63	.48	309	.76**	.43	41	.42	.49	382	69.5	6.90	382
Control	.70	.46	352	.61	.49	273	.42	.50	31	.44	.50	340	69.3	7.06	340

[a]Not applicable
[b]Data provided for 9th graders only
[c]Applicable only for non-seniors

*$p<.05$
**$p<.01$

Table 21

Means and Standard Deviations for
PATHE Target and Control Groups on
Measures of School Attendance from School Records

School and group	Number of days enrolled[a]		% Withdrew permanently[b]		% Days absent						% Days tardy		
					Unexcused			Total					
	M	SD	%	SD	M	SD	N	M	SD	N	M	SD	N
Courtenay													
Target (N=55)	266.0	45.1	.09	.29	.03	.04	52	.04	.04	52	.03	.06	52
Control (N=62)	273.6	25.0	.02	.13	.03	.04	61	.04	.04	61	.04	.07	61
Rivers													
Target (N=58)	270.7**	33.8	.05**	.22	.04	.04	51	.05	.06	51	.02	.03	51
Control (N=48)	244.2	69.3	.23	.42	.06	.05	35	.06	.05	34	.03	.04	35
Haut Gap													
Target (N=52)	278.0**	0.0	.00**	.00	.02	.03	46	.04	.04	45	.01	.01	51
Control (N=21)	226.1	109.7	.19	.40	.02	.02	15	.03	.04	15	.01	.03	17
Burke, Jr.													
Target (N=101)	247.0	62.5	.30*	.46	.07	.06	86	.07	.07	86	.01*	.01	86
Control (N=93)	251.0	67.1	.17	.38	.05	.06	79	.06	.07	78	.01	.01	78
Burke, Sr.													
Target (N=97)	258.2	55.2	.15	.36	.03	.03	83	.04	.04	83	--c	--c	--c
Control(N=79)	254.1	66.6	.13	.33	.04	.04	65	.06	.06	64	--c	--c	--c
St. Johns													
Target (N=100)	246.9	71.7	.22	.42	.06	.07	80	.08	.08	79	.05	.05	76
Control (N=91)	256.6	62.4	.12	.33	.06	.06	82	.07	.08	80	.05	.05	81
All Schools													
Target (N=463)	258.0	55.5	.16	.37	.05	.05	396	.06	.06	394	.03	.04	314
Control (N=394)	254.3	65.0	.13	.34	.05	.05	335	.06	.06	331	.03	.05	272

Note. Figures in the "Number of days enrolled" and "Withdrew permanently" columns are based on all 1982-83 treatment and control students who were enrolled at the beginning of the school year. Five treatment and seven control students who reenrolled in school during the 1982-83 school year but were not enrolled at the beginning of the school year are excluded. The remaining columns on the table include data for 82-83 treatment and control students for whom attendance data were available.

[a]"Number of days enrolled" is the total number of days (including weekends and holidays) that the student was officially enrolled in school during the 82-83 school year. The maximum number of days possible is 278.
[b]"Withdrew permanently" means the student officially withdrew from school during the 82-83 school year and did not officially reenter during that year.
[c]Data on tardiness to school is not systematically collected in this school.

Table 22

Means and Standard Deviations for PATHE Target and Control Groups on Measures of Disruption from School and Court Records

	Suspensions			Expulsions			Disciplinary Infractions: Total			Disciplinary Infractions: Minor			Disciplinary Infractions: Major			Court Contacts		
	M	SD	N	M	SD	N	M	SD	N	M	SD	N	M	SD	N	M	SD	N
Courtenay																		
Target	.03	.12	55	.00	.00	55	.48*	.62	55	.32**	.45	55	.07	.19	55	.07	.26	55
Control	.05	.18	62	.00	.00	62	.82	.93	62	.63	.76	62	.06	.15	62	.03	.18	62
Rivers																		
Target	.10	.22	59	.03	.23	59	.22*	.39	59	.11	.26	59	.07	.14	59	.02	.13	59
Control	.12	.32	49	.10	.50	49	.61	1.25	49	.24	.51	49	.26	.97	49	.06	.32	49
Haut Gap																		
Target	.06	.21	52	.00	.00	52	.03	.16	52	.02	.15	52	.00	.00	52	.00	.00	52
Control	.10	.26	19	.00	.00	19	.00	.00	19	.00	.00	19	.00	.00	19	.09	.29	22
Burke, Jr.																		
Target	.14	.27	104	.00	.00	104	.49	.63	104	.11	.26	104	.02	.11	104	.03	.17	104
Control	.17	.62	94	.05	.33	94	.43	.80	94	.06	.15	94	.02	.08	94	.03	.18	94
Burke, Sr.																		
Target	.08	.26	98	.02	.17	98	.21	.51	98	.07	.21	98	.00	.04	98	.01	.10	98
Control	.07	.16	80	.00	.00	80	.24	.59	80	.05	.15	80	.00	.04	80	.00	.00	.83
St. Johns																		
Target	.50	.77	96	.02	.17	96	.20	.47	96	.11	.32	96	.00	.04	96	.00	.00	100
Control	.40	.68	89	.02	.18	89	.16	.37	89	.10	.30	89	.00	.04	89	.00	.00	91
All Schools																		
Target	.18	.44	464	.01	.14	464	.28	.53	464	.12	.29	464	.02	.10	464	.02	.14	468
Control	.17	.49	393	.03	.26	393	.39	.80	393	.18	.44	393	.05	.36	393	.02	.17	401

Note. Table entries are ratios of the number of occurrences of the disciplinary action over the number of days enrolled.

*$p<.05$
**$p<.01$

Table 23

Comparison of Means and Standard Deviations on Selected Outcomes for Treatment and Control Students Who Remained in School with All Treatment and Control Students

	Spring, 1982 Grades						Major Disciplinary Offenses, 1981-82		
	Science			Math					
	M	SD	N	M	SD	N	M	SD	N
Burke, Jr.									
All 82-83									
Treatment	68.9	7.6	77	70.4	8.3	79	1.5	1.2	101
Control	66.2	10.0	74	70.2	9.8	81	1.4	1.1	93
82-83 Non-withdrawn									
Treatment	70.0*	7.2	60	72.0	7.4	61	1.5	1.2	71
Control	68.2	6.9	63	71.5	8.4	69	1.3	1.1	77
Haut Gap									
All 82-83									
Treatment	74.4	6.1	51	76.8*	7.0	51	1.5	1.3	52
Control	71.5	5.2	21	72.6	6.6	21	2.1	1.4	21
82-83 Non-withdrawn									
Treatment	74.4	6.1	51	76.8	7.0	51	1.5*	1.3	52
Control	71.3	4.9	17	73.3	6.8	17	2.0	1.3	17
Rivers									
All 82-83									
Treatment	73.6	6.9	54	69.7	8.5	54	1.6	1.2	58
Control	71.0	12.3	42	68.4	7.3	42	1.7	1.3	48
82-83 Non-withdrawn									
Treatment	73.7	7.0	53	69.6	8.6	53	1.7	1.2	55
Control	72.8	10.1	34	70.0	5.3	34	1.7	1.3	37

*$p < .05$

Table 24

t-statistics for Year-to-Year Differences on
School Averages for Individual-Level Outcomes

School	Individual Level Outcome Survey Measure							
	Total Delinquency	School Rewards	School Punishments	School Nonattendance	Positive Self Concept	School Attachment	Educ. Expectations	Involvement
Haut Gap Middle								
81-82	---	.65	-.87	-1.06	2.18*	1.76	1.92	-.49
82-83	-.58	.81	1.38	.61	.05	1.54	.51	-1.00
81-83	---	1.47	.51	-.69	2.29*	3.47**	2.41*	-.89
St. John's High								
81-82	-2.05*	.25	-.61	-1.18	.70	-.63	.38	1.56
82-83	-1.08	-.21	-.84	1.85	.87	1.96*	.51	-1.31
81-83	-2.74**	.09	-1.26	.11	1.27	.84	.77	-1.18
Laing (comparison)								
81-82	---	-1.19	2.45*	.27	1.52	-2.65**	.69	.41
82-83	1.92	-.76	-1.19	.52	-.18	.46	.86	-.52
81-83	---	-1.85	1.26	.77	1.21	-2.01*	1.49	-.65

Note. The desired direction of change is positive except for School Punishments, Total Delinquency and School Nonattendance. All measures are taken from the SAES student surveys. Delinquency was not measured in 1981 in the middle schools.

* $p<.05$
** $p<.01$

Table 25

t-statistics for Year-to-Year Differences on School Averages for School-Level Outcomes

School	School Level Outcome Survey Measure								
	Teacher Reports of					Student Reports of			
	Teacher Morale	Low Expectations	Planning & Action	Safety	Smooth Administration	Belief in Rules	Alienation	Rule Fairness	Rule Clarity
Haut Gap Middle									
81-82	2.78**	-.97	1.17	.49	2.46*	2.32*	-1.63	-.10	.47
82-83	-.41	.31	.53	.54	-.58	.69	-1.39	.84	.56
81-83	2.37*	-.64	1.70	1.03	1.88	2.98**	-3.08**	.74	1.03
Laing Middle									
81-82	.07	-1.57	-1.01	.83	-.31	1.85	-.15	-.67	-.90
82-83	-1.87	-.07	-1.55	-.56	-.69	.04	-.16	-.46	.78
81-83	-1.79	-1.69	-2.56**	.27	-1.01	1.70	-.31	-1.13	-.12
St. John's High									
81-82	2.12*	-1.46	.20	.29	.68	1.26	-.76	-.15	-.09
82-83	1.01	-.51	.66	1.53	-.20	.45	-1.38	.24	.07
81-83	3.13**	-1.90	.87	1.82	.48	1.61	-1.80	.09	-.02

Note. The desired direction of change is positive except for Low Expectations and Alienation. All measures are taken from the SAES student and teacher surveys. Climate measures, i.e., scales composed of student and teacher reports of the school climate, were constructed using items that had been aggregated to the school level. The "*t*-statistic" for these scales (Clarity of Rules, Fairness of Rules, Safety, Teacher Morale, Planning and Action, and Smooth Administration) is the ratio of the difference between the mean for the later year and the baseline year to the standard error of measurement of the 1982 scores for all schools in the OJJDP initiative. Haut Gap Middle and St. John's High received project services from September, 1980 through May, 1983. Laing Middle never received project services.

* $p<.05$.
** $p<.01$.